

Traffic Incident Management Enhancement (TIME) Blueprint Version 2.0

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Chapter 1

Introduction

1.1 Background

Southeastern Wisconsin demands high quality transportation systems to provide for the safe, dependable, and efficient movement of people and products. Over twenty years ago, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) and the Wisconsin Department of Transportation (WisDOT) identified the need to improve and expand the region's freeway traffic management capabilities. Freeway traffic incident management was recommended as a critical activity to improve these capabilities. Since that time, a number of regional activities with incident management components have been initiated.

In August of 1995, the Traffic Incident Management Enhancement (TIME) Program [formerly the Southeastern Wisconsin Incident Management (SWIM) Program] was initiated by WisDOT to coordinate existing freeway incident management activities, and to develop a permanent, on-going program of incident management enhancements for the region.

Many technological resources to enhance incident management are Intelligent Transportation Systems (ITS). ITS draws upon advanced technologies and computer systems to improve and/or increase the capacity, safety, and efficiency of existing transportation systems. While ITS provides the technology for enhanced incident management, institutional relationships and efforts are also critical.

1.2 TIME Blueprint Purpose

The purpose of the TIME Program Blueprint is to serve as a responsive “living” guide or strategic plan for the on-going development and implementation of the TIME Program. The initial Blueprint (dated June 1998) documents the results of the incident management study completed in 1997. It describes the process used to identify incident management

problems and needs and also presents solutions and recommendations for an ongoing program.

The TIME Blueprint Version 2.0 revisits the original problems, needs, and solutions identified in the original Blueprint and supplements them with additional, current problems, needs, and solutions identified through a series of meetings and working sessions held with a variety of stakeholders. Consistent periodic revaluation/verification of incident management problems, needs, and solutions is critical to the success of the TIME Program and implementation of new projects.

WisDOT's funding and implementation of ITS projects currently follows a six-year work plan. Version 2.0 of the TIME Blueprint includes new project descriptions to be incorporated into the Department's work plan addressing the updated problems and needs of the Program.

The TIME Blueprint Version 2.0 also addresses Program Administration and relationships with the Regional ITS Architecture. Program Administration defines TIME's inter-organizational structure and administrative requirements necessary to sustain the on-going Program. The Regional ITS Architecture, developed in accordance with federal requirements, presents a consistent platform by which existing and future transportation systems and subsystems are to be integrated and operated.

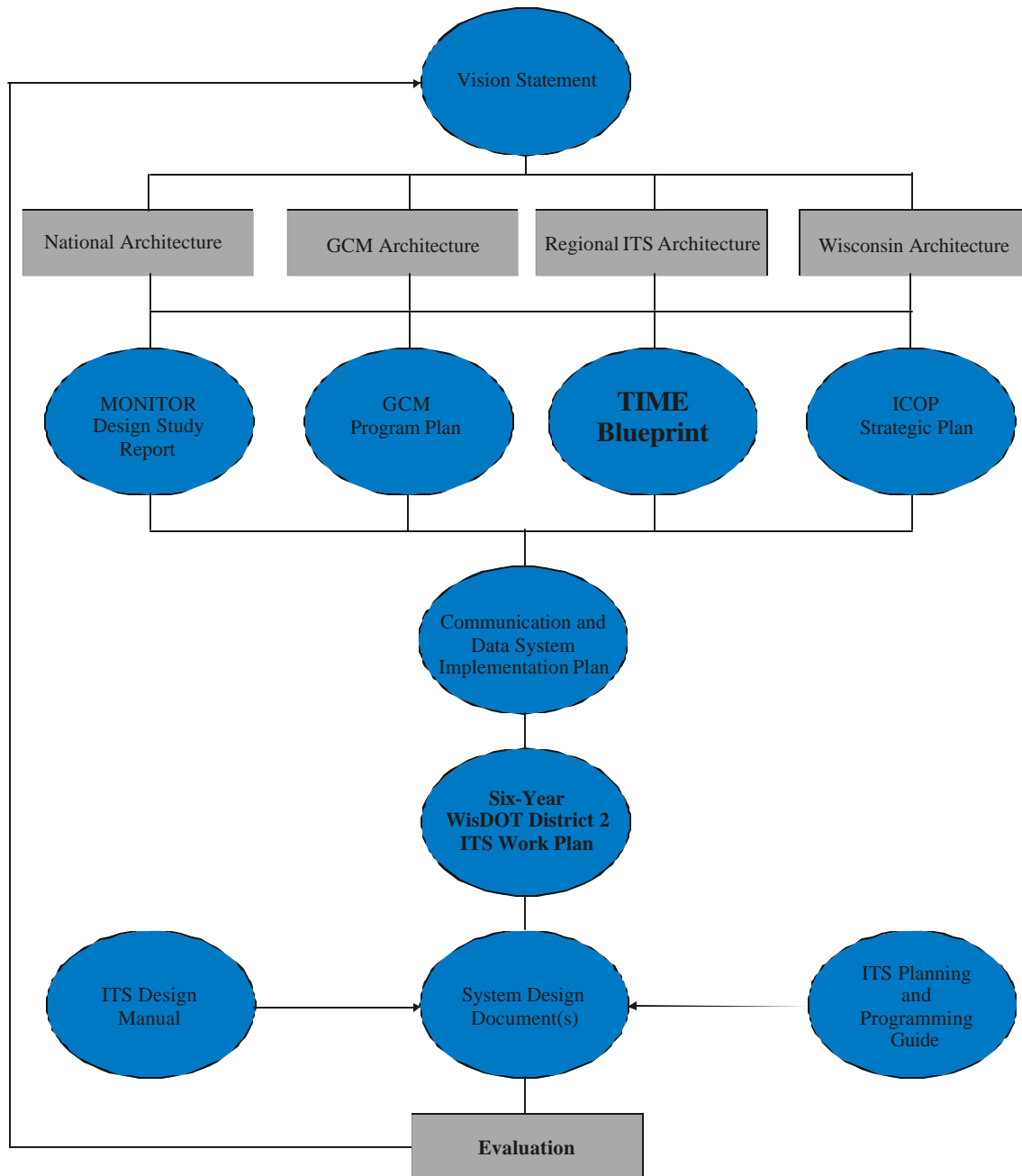
An independent evaluation of several elements of the TIME Program began in March of 1999. The TIME Evaluation Team consists of the University of Wisconsin – Madison and Marquette University. The TIME Blueprint Version 2.0 includes a summary of initial results from this evaluation.

1.3 TIME'S Relationship to Other Initiatives

Since the initiation of TIME, several additional activities have been initiated to address technological and institutional issues relating to regional traffic and incident management. Several of these include the Integrated Corridor Operations Project

(ICOP); the Communications Data System Infrastructure (CDSI); the I-94 Corridor Special Event Management and Traveler Information Study; and, the expansion of MONITOR, WisDOT's Milwaukee Area Freeway Traffic Management System. The relationship of TIME with these and other related initiatives are presented in Figure 1.

Figure 1.1
Southeast Wisconsin ITS and Incident Management Initiative Relationships



1.4 TIME Blueprint Version 2.0 Format

The format of the TIME Blueprint Version 2.0 allows for easily accessible reference to key components or activities of the Program. Brief descriptions of each section are as follows:

Executive Summary

This section briefly highlights the most important information documented in Version 2.0 of the TIME Blueprint.

Chapter 1: Introduction

Provides the necessary background information related to the TIME initiative; describes the purpose of the TIME Blueprint; and illustrates TIME's relationship to other initiatives.

Chapter 2: Strategic Background

Defines the Program goals and objectives; describes the TIME organizational structure; and identifies the fundamental and specific problems and needs.

Chapter 3: Solutions

Identifies and describes the TIME Program solutions and implementation strategy or Six-Year WisDOT District 2 ITS Work Plan.

Chapter 4: Regional ITS Architecture

Defines the purpose and limits of the Regional ITS Architecture; describes the process and documentation of the Architecture results; and identifies maintenance requirements.

Chapter 5: Incident Management Evaluation Program

Summarizes the evaluation of several elements of the TIME Program and shows the relationship between the evaluation results and the Program goals and objectives.

Chapter 6: Program Administration

Defines the administration needs of the TIME Program, the Southeast Wisconsin Regional ITS Architecture, and the TIME Program Evaluation required for sustainability of the on-going Program.

Appendix A: Database of TIME Steering Committee and FIMT Members

Appendix B: Draft WisDOT ITS Program Project Submittal Forms and Order of Magnitude Cost Estimates

Chapter 2

Strategic Background

2.1 Introduction

Incidents, defined as non-recurring events on roadways, often cause significant congestion and delay to the motoring public. Incidents are most commonly associated with disabled vehicles or vehicle crashes. However, anything that disrupts the smooth flow of traffic can be identified as an *incident*. This includes debris on the road, flooding, special events, even planned highway work.

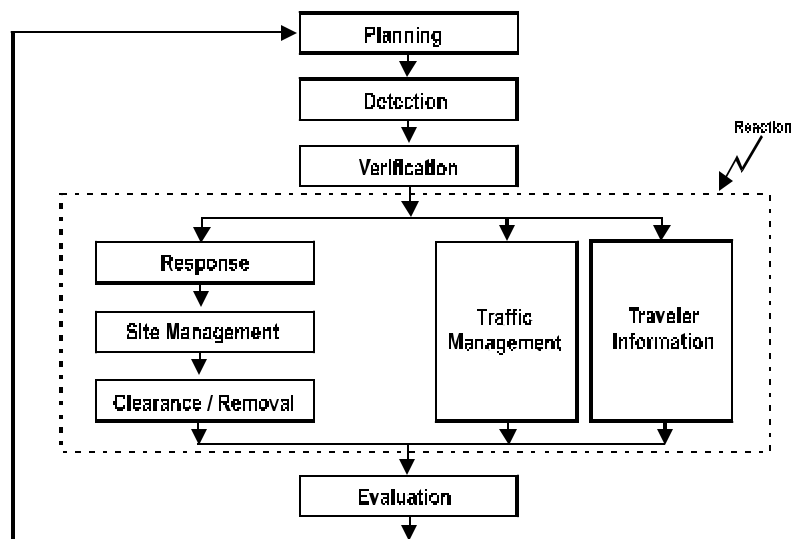
Traffic Incident Management is a coordinated approach to reducing the negative effects of traffic incidents. This type of management focuses on quick detection and the response and clearance of traffic incidents. Traffic incident management includes coordination and planning of both human and technological resources to alert motorists and restore roadways to normal operating conditions.

In 1995, the TIME Program was initiated with a 20-month study. The study included the formation of a Policy Group and Technical Team made up of representatives from state/local departments of transportation, law enforcement, fire departments, towing/recovery companies, and other public and private agencies. The role of the Policy Group was to provide “high-level” direction and support to the study. The Technical Team’s role was to provide the technical support and guidance necessary to complete the initial study.

The results of the study were important for at least two reasons. First, it facilitated the formation of institutional relationships that are critical to effective incident management. Second, and equally important, the study provided a foundation and “spring board” for the on-going traffic incident management program. It did so by:

- a) Defining Program Goals and Objectives;
- b) Identifying a Traffic Incident Management Process (Figure 2.1);
- c) Defining Traffic Incident Management Problems and Needs;
- d) Identifying Potential Solutions;
- e) Developing a TIME Program Plan (Blueprint); and,
- f) Forming an Inter-Agency Organizational Structure to Guide the On-Going TIME Program.

Figure 2.1
Traffic Incident Management Process



2.2 TIME Program Goals and Objectives

The TIME Program goals and objectives, originally identified in the context of the incident management study and subsequently modified during the Blueprint update process, are presented below.

PROGRAM MISSION:

Implement an on-going Traffic Incident Management Program consisting of short and long term strategies to enhance existing and evolving incident management organizational relationships, activities, and projects within the Southeastern Wisconsin Region.

PROGRAM OBJECTIVES:

1. Establish relationships and cultivate regional consensus on incident management issues and needs.
2. Review current incident management practices and procedures.
3. Determine incident management priorities and available resources.
4. Identify and implement incident management solutions.
5. Consistently evaluate traffic incident management solutions and strategies.
6. Utilize a “Blueprint” or strategic plan for an on-going program of incident management in Southeastern Wisconsin.

PROGRAM GOAL NUMBER 1:

Improve and enhance traffic incident management in the Southeastern Wisconsin Region.

- a. Facilitate interagency relationships and consensus necessary for an environment of continuing incident management planning and evaluation.
- b. Improve the ability to detect, verify, respond to, and clear freeway incidents.
- c. Improve inter-agency communication for emergency response.

PROGRAM GOAL NUMBER 2:

Improve freeway safety in Southeastern Wisconsin.

- a. Reduce the number of motor vehicle collisions and associated injuries and fatalities due to incidents and secondary effects.
- b. Ensure safety of responding personnel with improved incident site management.
- c. Improve and enhance the management of incidents involving hazardous materials.
- d. Improve the response time of emergency medical services for incidents involving injury.

PROGRAM GOAL NUMBER 3:

Enhance the quality and efficiency of freeway travel in Southeastern Wisconsin.

- a. Utilize existing freeway capacity to its fullest extent.
- b. Expand traveler information on traffic conditions.
- c. Improve traffic management during incidents.
- d. Reduce harmful vehicle emissions.

2.3 TIME Organization

With the completion of the initial traffic incident management study in 1997, there became a need for the TIME Program Organization to shift its focus from a study to an on-going traffic incident management program. With this need came an organizational restructuring that would allow for more focused attention to project deployment. Hence, the Policy Group became the Steering Committee and the Technical Team became the Freeway Incident Management Team (FIMT).

The TIME Steering Committee continues to be a multi-agency group that is typically made up of “decision-making” level individuals. The Steering Committee meets at least three times per year and provides direction and support for the permanent, on-going development, implementation, and administration of the TIME Program.

The TIME FIMT is also multi-agency and multi-disciplined and meets monthly to provide “hands-on” technical expertise in the continued planning, implementation, and evaluation of TIME projects. To facilitate project deployment, the FIMT is further broken down into four committees who also meet on a monthly basis.

1. Emergency Services Committee

Example Projects: Freeway Service Patrols, Traffic Response Units, Public Safety Communication, Video Sharing Project, Traffic Incident Management Manual, etc.

2. Corridor Traffic Management Committee

Example Projects: Integrated Corridor Operations, Crash Investigation Site (CIS) Strategic Plan, Emergency Route Planning, Traffic Control Plans, etc.

3. Special Events / Construction Committee

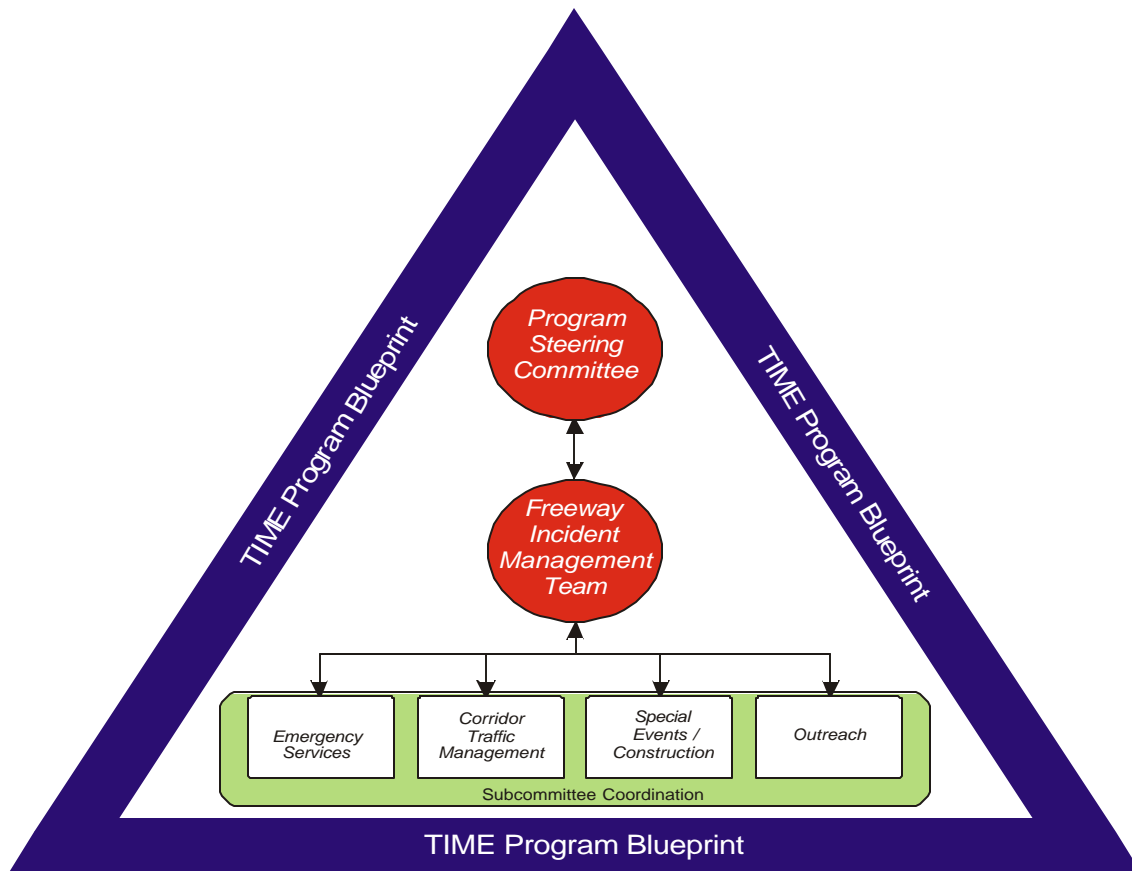
Example Projects: Special Event Transportation Standard Operating and Emergency Management Procedures Manual, Parking Management Systems, Coordination Meetings for Special Events and Construction Projects, etc.

4. Outreach Committee

Example Projects: TIME Video, Quarterly TIME Newsletter, Media Events, etc.

While the primary role of the TIME FIMT is project deployment, the FIMT also serves a very important role of continued incident management planning, “debriefing” of incidents, planned incident and emergency weather preparedness, and discussing other incident management related issues. A graphical representation of the TIME Organization is provided in Figure 2.2. A database of TIME Steering Committee and FIMT members (current at the time of Blueprint Version 2.0) is found in Appendix A.

Figure 2.2
TIME Organization



2.4 Fundamental Problem Areas

The original study identified many incident management problems and needs through various meetings, workshops, surveys, and focus group sessions. These problems and needs were verified and grouped according to the components of the Traffic Incident Management Process and modified during the Blueprint update process. The result is a synthesis of five *fundamental problem statements* that address both urban and rural incident management needs (Table 2.1).

Table 2.1
TIME Fundamental Problems

Traffic Incident Management Fundamental Problems	
1.	The amount of time to <u>Detect/Verify</u> , <u>Respond</u> to, and <u>Clear/Remove</u> freeway incidents is excessive.
2.	Incident management agencies have difficulties <u>Communicating and Sharing Data</u> with each other.
3.	Congestion, accidents and other <u>Traffic Management</u> problems are occurring on the surface street system due to freeway incident diversion.
4.	Comprehensive and timely <u>Traveler Information</u> is lacking for freeway incidents.
5.	Strategies for effective, coordinated traffic incident management <u>Planning</u> and <u>Evaluation</u> are inconsistent.

2.4.1 Specific Problems and Needs

In order to better define the five Fundamental Problem Areas, a listing of specific problems/needs was developed. This listing was developed using information gathered during the initial study and then refined as part of the Blueprint Update Process. It is categorized by FIMT Committee to enable each Committee to focus on corresponding problems/needs as they develop solutions (Chapter 3). TIME Specific Problems and Needs by FIMT Committee is found in Table 2.2.

Table 2.2
Specific Problems and Needs by FIMT Committee

Emergency Services Problem Areas
<ul style="list-style-type: none"> a. Overall Safety of Personnel at Incident Site b. Communication Between and/or Within Agencies is not Effective c. Difficult to Accurately Locate an Incident Prior to Full Response d. Difficult to Identify the Exact Location of Incidents from Cellular Telephone Calls e. Freeway Traffic Incidents can be Labor Intensive and Result in a Significant Draw on Resources f. Winter Weather Conditions Present Unique Circumstances to Traffic Incident Management g. The Amount of Time to Respond to, Clear, and Remove a Freeway Incident is Excessive h. Lack of HAZMAT Training and Location Information i. Response to “Dike” Spills is not Adequate j. Frequent Truck Rollovers k. It Takes too Long to Complete Lane / Freeway Closures and Traffic Control l. Frequent Occurrence of Secondary Accidents m. Often Difficult to Locate and/or Access Fire Hydrants Along the Freeway Right of Way n. Often Difficult to Identify Incident “Hot Spots” o. “Who’s in Charge” at the Scene of an Incident is not Clearly Defined p. Existing Push Bumpers do not Fit on New Vehicles q. State Line Coordination r. Guidelines / Policies for Emergency Vehicle Lighting are Different for Each County s. Guidelines and Standard Operating Procedures are Lacking for Freeway Incident Management t. Incident Training u. Impact of “Public Sector” Towing Services on Private Business

Table 2.2 (Continued)

Corridor Traffic Management Problem Areas
<ul style="list-style-type: none">a. Regular Diversion of Traffic to Local Streetsb. Commuters do not Heed Warnings on Variable Message Signs Due to a History of Bad Informationc. The Provision of Timely Traffic Information to Incident Management Agencies and the Media is not Adequated. Motorist Speeds are Excessivee. After an Incident, the Motorists Involved Often do not Relocate to a Safe Location in order to Exchange Information or Handle Minor Repairsf. The Methods Currently Used to Close Freeway Entrance Ramps or Divert Traffic Due to Major Traffic Incidents, Inclement Weather, and Other Reasons are not Effectiveg. Difficult to Identify the Exact Location of Incidents from Cellular Telephone Callsh. Winter Weather Conditions Present Unique Circumstances to Traffic Incident Managementi. Frequent Occurrence of Secondary Accidentsj. Often Difficult to Access Freeway Incident Sitek. TIME Evaluation of Elements and Driver Behavior are not Addressed Adequatelyl. Incident Management Technology Needs to be Implemented in all Areas of Southeastern Wisconsinm. Guidelines and Standard Operating Procedures are Lacking for Freeway Incident Management

Table 2.2 (Continued)

Special Events / Construction Problem Areas	
a.	Winter Weather Conditions Present Unique Circumstances to Traffic Incident Management
b.	Guidelines and Standard Operating Procedures are Lacking for Freeway Incident Management
c.	The provision of Timely Traffic Information to Incident Management Agencies and the Media is not Adequate
d.	Special Event Planning Coordination / Strategies
e.	Highway Maintenance Safety at Night
f.	Information on Construction Updates is Lacking
g.	Tourism Traffic Impacts
Outreach Problem Areas	
a.	After an Incident, the Motorists Involved are not Aware of Crash Investigation Site Locations or How to Use Them
b.	Motorists Find it Difficult to Determine their Location on the Freeway using Reference Markers
c.	The Level of Public Education and Awareness About the TIME Program is not Enough
d.	Tourism Traffic Impacts
e.	Incident Clearance Law Education
f.	The Provision of Timely Traffic Information to Incident Management Agencies and the Media is not Adequate
g.	Incident Management Technology Needs to be Implemented in all Areas of Southeastern Wisconsin
h.	Funding is Inadequate
i.	Incident Training

While the specific incident management problem areas are categorized here by FIMT committee, it is recognized that several problem areas appear in multiple categories (or committees) and hence require the attention of a variety of disciplines within the FIMT.

Chapter 3 Solutions

3.1 Introduction

Identification of incident management problems and needs described in the previous chapter continues to be the foundation for developing TIME solutions. The approach used to develop TIME Blueprint Version 2.0 solutions consisted of the following four primary activities:

1. Synthesize solutions identified in the initial study;
2. One-on-One Meetings with representative Steering Committee members;
3. TIME Blueprint Update Technical Workshop – February 2000; and
4. Freeway Incident Management Team Meeting – April 2000.

Activities 2, 3, and 4 were conducted as part of the Blueprint update process. Each activity involved numerous opportunities for Freeway Incident Management Team and Steering Committee participation and input. For reference purposes this chapter is formatted as follows:

Section 3.2 – Table of each solution grouped by FIMT Committee followed by brief solution descriptions.

Section 3.3 – TIME Blueprint Solution Matrix that shows each solution's relationship with:

- Services, Products, Policy, Equipment, and System, and
- Program Administration, Coordination/Training/Services, Traveler Information/Information Management, and Highway Infrastructure.

Section 3.4 – Six-Year WisDOT District 2 ITS Work Plan

Additionally, Appendix B contains draft WisDOT ITS Program Project Submittal Forms (which further define each solution, sponsors, implementation schedule, etc.) and order of magnitude cost estimates for each solution.

3.2 Solutions

The solutions in Table 3.1 are arranged by FIMT Committee to illustrate the lead role in the implementation of a particular solution although other FIMT Committees may provide additional support as necessary. The identification numbers associated with each solution are for project tracking purposes only (i.e. identification numbers do not infer project priority). A brief definition for each solution follows to impart a general understanding of the elements contained within a solution.

Table 3.1
Solutions by FIMT Committee

Emergency Services Solutions	
E1.(a-h)	TIME Program Administration
E2.	Emergency Respondent Resource Lists
E3.	Emergency and Maintenance Vehicle Warning Systems
E4.(a-d)	Freeway Safety Patrols
E5.(a-b)	HAZMAT Program
E6.	Inter-Jurisdictional Mutual Aid Agreements
E7.(a-b)	Traffic Incident Management Policies
E8.(a-b)	Operational Policies for CVOs
E9.(a)	Traffic Incident Management Demonstrations / Training Exercises
E10.(a-b)	Comprehensive Dispatcher Training
E11.	Freeway Enforcement Patrol
E12.	Incident Management Equipment Alternate Storage Sites
E13.	Portable Changeable Message Signs
E14.(a-j)	TESCNET
E15.(a)	911 Enhancements
E16.(a-b)	Measuring Devices for Crash Investigation
E17.(a)	Voice Communication Enhancements
E18.(a-b)	Freeway Fire Hydrants
E19.(a)	Highway Watch
E20.(a-c)	MONITOR Closed Circuit Television (CCTV) Video Sharing

Table 3.1 (Continued)

Corridor Traffic Management Solutions	
C1.	Regional ITS Architecture Administration
C2.	Alternate Route Planning and Traffic Control Plans
C3.(a)	Traveler Information Standards
C4.(a-c)	MONITOR Expansion / Enhancements
C5.(a-b)	Crash Investigation Sites
C6.(a-b)	Enhanced Reference Signs
C7.(a-e)	Signal Enhancements
C8.(a-b)	Measures to Reduce Freeway Speed
C9.(a-b)	Variable Message Signs
C10.	Regional Multi-Agency Traffic Management Center
C11.(a-b)	Probe Traffic Information
C12.	In-Vehicle Traveler Information
C13.(a-d)	Incident Management Evaluation Program
C14.(a-c)	Freeway Access Enhancements for Emergency Response Vehicles
C15.(a-c)	Ramp Closure Gates and Detour Signing
C16.(a-c)	Weather Information Gathering and Dissemination System
C17.(a-c)	Locating Systems
C18.(a-j)	Integrated Corridors
C19.	Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation / Reconstruction Projects
Special Events / Construction Solutions	
S1.(a-c)	Special Event Transportation Standard Operating and Emergency Management Procedures
S2.	Special Events Parking Management System
S3.(a-b)	Integration of Road Weather Information
S4.(a-b)	Mobile Command Post and Special Event Management System
S5.(a-f)	Special Event Traveler Information
S6.(a-c)	Transit Initiatives
Outreach Solutions	
O1.(a-d)	Market Research Study
O2.(a-b)	Statewide ITS Coordination
O3.	Build ITS into the State Project Process (Design and Funding)
O4.(a-f)	Emergency Responder Education / Training Programs
O5.(a-i)	Public Education / Outreach Programs
O6.(a)	Commercial Driver Education / Outreach Programs
O7.(a)	Tourist Education / Outreach Programs
O8.(a)	Enhanced Media Information / Dissemination

Table 3.1 (Continued)

MONITOR Solutions *	
M1	Stage 4 Construction
M2	Special Events Stage Construction (Miller Park)
M3	Stage 5 Construction
M4	Stage 6A Design
M5	Stage 6A Construction
M6	Communications Infrastructure Construction
M7	Stage 6B Design
M8	Stage 6B Construction
M9	MONITOR 2010 Preliminary Engineering
M10	2010 Stage 1 Design
M11	2010 Stage 1 Construction
M12	2010 Stage 2 Design
M13	MONITOR Web Page
M14	MONITOR Transit Integration Pilot Project
M15	TMC Design
M16	TMC Construction
M17	Computer System Update (Y2K Fix)
M18	Computer and Control System Upgrade – Phase 1
M19	Computer and Control System Upgrade – Phase 2
M20	System Software Update
M21	Freeway Corridor ATMS Maintenance and Integration
M22	Systems Engineering and Configuration Management
M23	System Evaluation and Technology Development
M24	Education, Training, and Awareness
M25	Control Room Technical Support and Training

* Note: MONITOR solutions are presented here for Six-Year WisDOT District 2 ITS Work Plan consistency purposes only. Refer to the MONITOR Design Study Report for solution definitions.

EMERGENCY SERVICES SOLUTION DESCRIPTIONS

E1. TIME Program Administration

TIME Program Administration may include consultant support necessary to maintain an on-going Program. Duties include but are not limited to those listed below.

a. TEA 21 Earmark Administration and Technical Support

b. District GCM Staffing and Administrative Support

c. District 2 GCM Program Support

d. Regional Planning Commission ITS Planning Project

e. Transportation Operations Strategic Vision Development

f. Resource Opportunity Research

g. Multi-Agency Collocation Project

h. TIME Program Technical Support

- *Program Steering Committee*
- *Freeway Incident Management Team*

E2. Emergency Respondent Resource Lists

Emergency Respondent Resource Lists specify who (personnel) and what (equipment) is available to assist with incident management for each particular freeway segment. This list is distributed to all responsible agencies and used by dispatchers to ensure the most efficient and effective resources are dispatched for incident management.

E3. Emergency and Maintenance Vehicle Warning Systems

To enhance the safety of emergency medical services and maintenance personnel, Emergency and Maintenance Vehicle Warning Systems such as directional strobe arrows and mobile crash attenuators, provide advance warning of incident zones (i.e. crash scene or routine roadway maintenance).

E4. Freeway Safety Patrols

a. Enhanced Freeway Patrols – Continuation

Continuation of the Enhanced Freeway Patrol in Milwaukee County and the Gateway Patrols in Racine and Kenosha Counties. Freeway Patrols minimize the impacts of incidents and provide aid to stranded motorists by driving freeway routes to search for and respond to freeway incidents.

b. Enhanced Freeway Patrols – Expansion

Expansion of the Freeway Patrols to other counties in Southeastern Wisconsin. Freeway Patrols minimize the impacts of incidents and provide aid to stranded motorists by driving freeway routes to search for and respond to freeway incidents.

c. Traffic Response Unit (Pilot: Racine / Kenosha Counties)

Traffic Response Units allow for more efficient traffic control and clearance during major planned (special events, maintenance) and unplanned (crashes) traffic incidents.

d. Remote Incident Traffic Control

Remote Incident Traffic Control includes the procurement and storage of traffic control devices to be used by the County Maintenance Departments.

E5. HAZMAT Program

a. HAZMAT Clearance Enhancement Program

HAZMAT Clearance Enhancement Program includes elements such as improved HAZMAT cargo identification, specific HAZMAT route designation/enforcement, legislation, streamlining environmental regulations, and measures to expedite the overall HAZMAT clearance process.

b. Training/Improved Awareness for HAZMAT

Training/Improved Awareness for HAZMAT includes elements such as the incorporation of HAZMAT training in law enforcement certification, annual workshops, and better awareness of HAZMAT movement on the freeway system.

E6. Inter-Jurisdictional Mutual Aid Agreements

Inter-Jurisdictional Mutual Aid Agreements are formal documents allowing agencies from multiple jurisdictions to respond to emergencies including freeway incidents.

E7. Traffic Incident Management Policies

a. Incident Command System Policy

A policy to enhance incident command system efficiency.

b. Emergency Flashing Lights Policy

Standards/guidelines to reduce emergency vehicle response lighting at incident sites.

E8. Operational Policies for CVOs

a. Heavy Vehicle Clearance Recommendations

Heavy Vehicle Clearance Recommendations include the development of heavy vehicle clearance guidelines and/or the procurement of specialized heavy vehicle clearance equipment.

b. Legislation to Reduce Trucking Related Incidents

Development of Trucking Legislation that restricts lane use, speeds, and weight of commercial vehicles.

E9. Traffic Incident Management Demonstrations / Training Exercises

a. On-Going Joint Agency Exercise

Traffic Incident Management Demonstrations/Training Exercises are On-Going Joint Agency Exercises that focus on the implementation of communications between agencies.

E10. Comprehensive Dispatcher Training

Comprehensive Dispatcher Training may entail traffic incident management education at regular intervals to discuss new/updated programs and procedures.

a. Dispatcher Enhanced Reference Marker Education

Dispatcher Enhanced Reference Marker Education is an effort to educate 911 dispatchers about the appropriate use of Enhanced Reference Signs and the importance of asking motorists, who are reporting incidents to notice the reference signs and use them to describe the location of the incident.

b. Evacuation and Alternate Routes

Once Evacuation and Alternate Route plans are developed, dispatchers need to be trained in their use.

E11. Freeway Enforcement Patrol

A Freeway Enforcement Patrol is a sheriff department staffed patrol dedicated to the enforcement/prevention of drunk driving, road rage, crash, and excessive speed regulations. The initial project tasks may include the evaluation/research of similar programs and the development of a project proposal.

E12. Incident Management Equipment Alternate Storage Sites

Storing equipment required for incident response near high incident locations instead of one central location can reduce the time needed to respond to and clear an incident. This project entails the design and implementation of storage facilities as well as the procurement of the necessary equipment for incident response.

E13. Portable Changeable Message Signs

Portable Changeable Message Signs mounted on a trailer or truck can display effective messages which provide traveler information during “recurring” incidents (i.e. special events, construction) and “nonrecurring” incidents (i.e. truck rollovers).

E14. TESCNET

The Transportation & Emergency Service Communications Network (TESCNET) projects will implement wireless and wireline communications infrastructure and data processing equipment to enable more efficient interagency voice and data communications. These projects will initially focus on supporting transportation management and emergency service functions of State law enforcement and transportation agencies and county law enforcement and transportation agencies.

- a. TESCNET Inter-CAD – Phase 2B*
- b. TESCNET Inter-CAD – Phase 2C*
- c. TESCNET Inter-CAD – Phase 3 and 4*
- d. TESCNET Inter-CAD – Phase 5 and 6 Design*
- e. TESCNET Inter-CAD – Phase 5 and 6 Deployment*
- f. TESCNET Emergency Service Video and Data Sharing – Pilot*
- g. TESCNET Backbone Fixed Plant Design and Procurement*
- h. TESCNET Backbone Wireless*
- i. AVL (Emergency/Maintenance/Transit Vehicles)*
- j. LifeLink Design and Deployment*

E15. 911 Enhancements

a. Emergency Telephone Call-In 911 Enhancements

Emergency Telephone Call-In 911 Enhancements would predominantly be implemented by telephone companies and/or cellular telephone providers and may potentially include items such as one-touch termination or transfer to minimize call loads for dispatch personnel. These technological advancements will allow 911 dispatchers to more efficiently handle incoming telephone calls.

E16. Measuring Devices for Crash Investigation

a. “Total Station” Survey System and Laser Measuring Devices for Crash Investigation

Equipment and training is needed in order to utilize surveying equipment, computer mapping capabilities, and laptop computers for recording accident related measurements.

b. Aerial Photography

Aerial Photography involves the utilization of helicopter or airplane video cameras to record vital incident scene data.

E17. Voice Communications Enhancements

Voice Communications Enhancements may include technical and/or policy advancements that improve the communication abilities between responding agencies at an incident scene.

a. FIRECOM

FIRECOM is one example of a voice communication enhancement that provides the ability for Sheriff and Fire Departments to talk via radio at an incident scene through a special dispatcher patch.

E18. Freeway Fire Hydrants

a. Fire Hydrant Location Identification

Fire Hydrant Location Identification markers or signs along the freeway right of way indicate the presence of a nearby fire hydrant. These signs reduce the

time necessary to locate the nearest fire hydrant, particularly in areas provided with sound barriers and during large accumulations of snow cover.

b. Additional Freeway Fire Hydrants

Additional Freeway Fire Hydrants are needed in freeway interchange locations and within the right of way of high incident locations to reduce fire related incident times.

E19. Highway Watch

a. Permanent Highway Watch Incident Detection/Verification Program

The Highway Watch is a strategy to enlist and train commercial truck drivers to report freeway incidents such as crashes, vehicle breakdowns, and adverse weather conditions via cellular telephone.

E20. MONITOR Closed Circuit Television (CCTV) Video Sharing

a. Emergency Responders

A direct connection and/or internet access from the WisDOT freeway CCTV subsystem can be provided to fire departments, emergency medical service providers, and others, allowing responders to potentially “view” the incident site and response route conditions prior to and during dispatch of equipment and personnel.

b. Maintenance Departments

Provision of real-time travel condition video to maintenance dispatchers.

c. Aerial Surveillance Expansion

Procurement of equipment and training to be used by Sheriff Departments for Aerial Surveillance during traffic incidents.

CORRIDOR TRAFFIC MANAGEMENT SOLUTION DESCRIPTIONS

C1. Regional ITS Architecture Administration

Regional ITS Architecture Administration will include support necessary to update the regional ITS architecture on an annual basis as new transportation and public safety projects are implemented.

C2. Alternate Route Planning and Traffic Control Plans

Alternate Route Planning involves the development of pre-planned alternatives for motorists to utilize in the event of incidents causing extended lane blockages on the freeway. Traffic Control Plans include traffic signal timing modifications, parking restrictions, and signing.

C3. Traveler Information Standards

Traveler Information Standards includes the use of consistent standards for effectively and efficiently providing traveler information to motorists via VMS, TAR, the media, and other traveler information methods to decrease driver confusion and improve safety.

a. VMS Operation Policy

Development of a VMS Operation Policy to eliminate vague messages, promote aggressive operation, provide consistent messages, consider diversion messages, and provide effective operator training.

C4. MONITOR Expansion / Enhancements

a. Establish MONITOR Archival Data Support

Establishment of MONITOR Archival Data to Support evaluation of needs and priorities by creating a data management system.

b. Enhanced MONITOR Operations

Enhanced MONITOR Operations involves more effective and efficient use of existing MONITOR system elements.

c. MONITOR 2010

Includes expansion of the system detector system, closed circuit television, communication infrastructure, ramp metering, VMS, traveler advisory radio (TAR), etc.

C5. Crash Investigation Sites

Crash Investigation Sites, which are located on freeway exit ramps or off of the freeway at park and ride lots and other locations, provide a safe location for information to be exchanged after the occurrence of traffic incidents. They also provide a safe location for vehicles that need minor repairs or disabled vehicles.

a. Design and Construction

b. Maintenance

C6. Enhanced Reference Signs

Enhanced Reference Signs are signs that identify the roadway name, travel direction, and potential reference point to improve motorist's knowledge of an incident location.

a. Design and Construction

b. Maintenance

C7. Signal Enhancements

a. Signal System Hardware Upgrades

Signal System Hardware Upgrades are improvements to arterial traffic signal systems necessary for the implementation of state-of-the-art arterial traffic management practices including advanced signal timing, phasing, and coordination.

b. Surface Street Electronic Traffic Monitoring

Surface Street Electronic Traffic Monitoring includes the installation of system loop detectors and CCTV on arterials typically used as alternate routes during freeway incidents. These monitoring devices will provide arterial capacity information to those responsible for traffic management and traveler

information and help emergency respondents determine the fastest routes to the incident site.

c. Traffic Signal and Ramp Meter Integration

Traffic Signal and Ramp Meter Integration helps address arterial congestion in the vicinity of a metered ramp through coordinated operations between traffic signals and ramp meters.

d. Enhanced Emergency Responder Traffic Signal Control

Enhanced Emergency Responder Traffic Signal Control would allow a traffic signal to automatically change to “green” to permit emergency vehicles to proceed through an intersection. This type of preemption can also be used at ramp meters by allowing queued vehicles to be discharged.

e. Inter-Jurisdictional Traffic Signal Coordination

Inter-Jurisdictional Traffic Signal Coordination provides greater mobility to diverted and emergency response vehicles by allowing for “seamless” arterial signal progression.

C8. Measures to Reduce Freeway Speed

a. Use of Traffic Warnings

Converging chevrons and flashing lights can be used to alert motorists of excessive speed under certain roadway and weather conditions.

b. Speed Incident Prevention Project

A Speed Incident Prevention Project may improve freeway safety by implementing a combination of advanced technology (i.e. speed boards, speed radar signs, speed enforcement sign with “memory”), law enforcement, and public education elements to reduce freeway traffic incidents that are caused by excessive speed.

C9. Variable Message Signs

a. Delay Signing at Ramp Meters

Variable Message Signs located at ramp meters could display the amount of real-time delay.

b. Variable Message Signs Mounted on Pre-Existing Exit Signs for Emergency Information

Variable Message Signs Mounted on Pre-existing Exit Signs may display lane or exit ramp closure information.

C10. Regional Multi-Agency Traffic Management Center

A Regional Multi-Agency Traffic Management Center provides improved incident management coordination by co-locating personnel from responsible agencies.

C11. Probe Traffic Information

Probe Traffic Information consists of probe vehicles (i.e. transit, paratransit, maintenance, taxis, and delivery fleet vehicles) that frequently travel the freeway and arterial systems and can communicate real-time information regarding travel speeds and delay directly to the Traffic Operations Center.

a. Transit

b. Maintenance

C12. In-Vehicle Traveler Information

In-Vehicle Traveler Information systems may include radio signals that can override the radio/tape/cd player settings to broadcast current travel conditions or computer screens that display current travel conditions.

C13. Incident Management Evaluation Program

The Incident Management Evaluation Program defines the methodology and measures of effectiveness to evaluate the goals, objectives, and specific strategies of the program and documents the “before” and “after” evaluation benefits of projects.

a. Phase I

b. Phase II

c. Phase III

d. Phase IV

C14. Freeway Access Enhancements for Emergency Response Vehicles

a. Freeway Access Enhancements for Emergency Response Vehicles

Freeway Access Enhancements include the provision of u-turns, median cross-over turnarounds, or gated entrances at non-interchange cross streets at high incident locations to allow emergency respondents easier/quicker access to freeway incidents.

b. Traffic Signal and Ramp Meter Emergency Vehicle Preemption

Traffic Signal Emergency Vehicle Preemption is a technology that allows a traffic signal to automatically change to “green” to permit emergency vehicles to proceed through an intersection. Ramp Meter Emergency Vehicle Preemption allows queued vehicles to be discharged therefore minimizing emergency vehicle response time.

c. Freeway Design Enforcement Accommodations

Freeway Design Enforcement Accommodations include the provision of concrete pads on the freeway right of way for law enforcement patrols and additional space (e.g. wider shoulders, High Occupancy Vehicle (HOV) lanes) on freeway entrance ramps so that law enforcement can move around traffic to get onto the freeway.

C15. Ramp Closure Gates and Detour Signing

a. Ramp Closure Gates

To minimize the utilization of law enforcement vehicles and personnel as roadway barriers, permanent Ramp Closure Gates allow for easy closure of access to the freeway during inclement weather and freeway incidents.

b. Signs for Detour Routes

When entrance ramps are closed due to a major incident or inclement weather appropriate detour signs need to be in place to alert motorists of the closure and inform them of alternate routes.

c. “Trail Blazer” Route Guidance Signing

“Trail Blazer” Signs are electronic signs used to guide diverted travelers along alternate routes and back to the freeway.

C16. Weather Information Gathering and Dissemination System

a. Weather Information Gathering System and Dissemination Equipment

A Weather Information Gathering System and Dissemination Equipment includes the ability to gather weather information from reliable sources (e.g. mobile pavement temperature sensors, National Weather Service, etc.) and make this information available to the appropriate agencies (e.g. WisDOT, maintenance/DPW, public safety/law enforcement, etc.) through communication links.

b. Mobile Pavement Temperature Sensors and Weather Information

Mobile Pavement Temperature Sensors can be installed on law enforcement and maintenance vehicles to detect pavement temperatures and potential icy and wet surface conditions.

c. Automated Weather Information

Automated Weather Information includes the use of Highway Advisory Telephone (HAT) and weather stations at high incident locations as well as providing weather information on the WisDOT/traveler information website.

C17. Locating Systems

a. Mayday Systems/GPS Locating Systems

Mayday and GPS Locating Systems are in-vehicle systems that automatically communicate emergency “help” signals via Global Positioning Satellites to the appropriate authorities.

b. Cellular Telephone Locating Systems

Cellular Telephone Locating Systems utilize the latest cellular technology to quickly and accurately pin point the location of the originating call. This technology will be very useful in the detection, verification, and response to incidents.

c. AVL

AVL or Automatic Vehicle Location is a technology typically used for tracking the location of public/safety/law enforcement and maintenance units in real

time. This technology will reduce response times by allowing dispatchers to deploy the unit closest to the incident scene.

C18. Integrated Corridors

The Integrated Corridors Project is the use of surface street traffic data and video surveillance, traffic responsive or adaptive traffic signal systems, static and dynamic traffic signing and other traveler information devices, and traffic signal and traveler information equipment to enhance transit service to form efficient and unified travel corridors.

- a. Integrated Corridor Test Segment Design*
- b. Integrated Corridor Test Segment Construction*
- c. Integrated Corridor – 894/45 Design*
- d. Integrated Corridor – 894/45 Construction*
- e. Integrated Corridor – 894/43 Design*
- f. Integrated Corridor – 894/43 Construction*
- g. Integrated Corridor – 43/Marquette Interchange Design*
- h. Integrated Corridor – 43/Marquette Interchange Construction*
- i. Integrated Corridor – 94 Racine/Kenosha Design*
- j. Integrated Corridor – 94 Racine/Kenosha Construction*

C19. Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation / Reconstruction Projects

The development of a policy to require the consideration of spare conduit installation in freeway and arterial corridor rehabilitation/reconstruction projects to be used for future ITS projects and traffic signal interconnection.

SPECIAL EVENTS / CONSTRUCTION SOLUTION DESCRIPTIONS

S1. Special Event Transportation Standard Operating and Emergency

Management Procedures (SO/EMP)

a. SO/EMP Manual

The purpose of the SO/EMP Manual is to provide guidelines by which the WisDOT, special event coordinators, and emergency response agencies can better facilitate safe and efficient arrival and dismissal of special events patrons in Southeast Wisconsin. This manual will identify current practices and develop recommended guidelines for the planning and operation of special events traffic management.

b. Emergency Evacuation Plans

The SO/EMP Manual will also prescribe an emergency management traffic operation plan to provide consistency and coordination for emergency service responders in the event of a special event evacuation.

c. Pre-Planning for Special Events/Tourism/Construction Activities

Pre-planning ensures that traffic/transportation issues have been addressed in the early stages of special event/tourism/construction planning.

S2. Special Events Parking Management System

Special Events Parking Management Systems typically deploy dynamic roadside traveler information devices for parking information and coordinated special events Traveler Advisory Radio (TAR) and VMS components.

S3. Integration of Road Weather Information

a. Weather Information Study

A Weather Information Study may include a survey and further analysis to determine the most appropriate weather information to provide to motorists and the best method of dissemination.

b. Freeway Emergency Guidelines

Freeway Emergency Guidelines indicate to law enforcement, maintenance, and transportation professionals and motorists the proper courses of action in

various emergency weather situations as well as major incidents. These guidelines could outline usage of ITS infrastructure to disseminate emergency weather information, establish detour routes for major corridors, and outline usage of a tow moratorium and entrance ramp closure gates.

S4. Mobile Command Post and Special Event Management System

a. Regional Mobile Command Posts

A Regional Mobile Command Post can facilitate interagency coordination during special events and at major incident sites. It is comprised of a mid/large size recreational vehicle with common communication equipment for the agencies involved.

b. Portable ATMS for Special Events

Portable Advanced Traffic Management Systems (ATMS) are typically used for planned incidents such as special events or construction. The portable system utilizes elements such as portable CCTV, VMS, and TAR to provide a fully operational on-site traffic management coordination systems for relatively short periods of time.

S5. Special Event Traveler Information

a. Special Event Database

A region-wide Special Event Database includes a comprehensive listing of all special events in the area that require traffic/incident management activities.

b. Kiosks

Kiosks are monitors that provide traveler information in the form of live video from CCTV or descriptions of travel conditions on various freeway and arterial routes. Kiosks are typically located at shopping malls, airports, and special event venues.

c. Transit Information at Park and Ride Lots

Traveler information provided at transit park and ride lots is displayed on specialized VMS and may include information pertaining to the approximate arrival time of the next bus for each route.

d. Internet Repository

An Internet Repository allows users to access regional traveler and special event information. The information provided may include an interactive schedule of special events, directions from major origins with maps, anticipated construction delays, transit information, real-time traveler information, and links to other relevant internet sites.

e. Media Partnerships

Develop Partnerships with the Media (e.g. AM/FM radio stations, TAR, Traveler Advisory Telephone, cable television, internet, etc.) to better communicate travel information to motorists.

f. “Out of County” Driver Information

“Out of County” Driver Information is the provision of travel information to motorists outside of Southeastern Wisconsin.

S6. Transit Initiatives

a. Kiosks

Kiosks are monitors that provide traveler information in the form of live video from CCTV or descriptions of travel conditions on various freeway and arterial routes. When deployed in conjunction with transit initiatives they can also display route and timetable information. Kiosks are typically located at park and ride lots, shopping malls, airports, and special event venues.

b. SMART Bus

A SMART Bus system may use AVL for real time bus location information, electronic fare payment, and automated passenger counting.

c. Transit Traffic Signal Prioritization

Transit Traffic Signal Prioritization is a technology that allows a traffic signal to automatically change to “green” to permit buses to proceed through an intersection. This provision will allow individual bus routes to remain on schedule and provide a reliable service to travelers.

OUTREACH SOLUTION DESCRIPTIONS

O1. Market Research Study

a. Motorist/Market Research Study

Conduct a “user” study to determine the best approach for TIME program outreach efforts.

b. ITS Branding Initiative

The ITS Branding Initiative is an initiative undertaken by the WisDOT Central Office in order to give Wisconsin ITS program outreach components a unified appearance and theme and convey an integrated ITS effort to the public and politicians.

c. Public Opinion/Response Survey

A Public Opinion/Response Survey may be distributed to a random sample of motorists at the end of each Blueprint implementation period to establish future Blueprint refinements.

d. Traveler Information Public Opinion Survey

Conduct a Traveler Information Public Opinion Survey to determine which VMS, TAR, media, etc. messages are most clearly understood by travelers within Southeast Wisconsin.

O2. Statewide ITS Coordination

a. Statewide ITS Users Group

Development of a Statewide ITS Users Group for statewide ITS coordination.

b. Annual Workshop of all Statewide ITS Projects

Conduct an Annual Workshop to provide updates on all statewide ITS projects – current and planned.

O3. Build ITS into the State Project Process (Design and Funding)

ITS projects need to be incorporated into the WisDOT design and funding process for freeway reconstruction/rehabilitation projects.

O4. Emergency Responder Education / Training Programs

a. Education/Outreach on Incident Clearance Legislation

Educate Responders (i.e. EMS, towers, freeway patrols, etc.) on the use of Incident Clearance Legislation by providing information in newsletters and speaking at association meetings.

b. Education/Outreach on Crash Investigation Sites

Educate Responders (i.e. EMS, towers, freeway patrols, etc.) on the use of Crash Investigation Sites by providing information in newsletters and speaking at association meetings.

c. Emergency Respondent Safety and Incident Management Procedures

Implementation Program and Training

Establishment of an on-going program to develop and enhance incident management safety procedures, procedures/protocols for “worst case” incident scenarios, examples to build on, and an assessment of products used by other agencies nationwide.

d. Provide Specialized Automobile Emergency Response (Extrication) Training

A dedicated countywide unit that specializes in auto incidents and extrication.

e. Incorporate Traffic Incident Management into Required (Annual) Law

Enforcement Training

Law enforcement agencies require yearly certification training. Traffic incident management could be incorporated into the curriculum at MATC, UWM, etc.

f. Traffic Incident Management Demonstrations/Training Exercises

Traffic Incident Management Demonstrations/Training Exercises are on-going Joint Agency Exercises that focus on the implementation of communications between agencies.

O5. Public Education / Outreach Programs

Public Education/Outreach Programs include but are not limited to the various elements of ITS and traffic incident management listed below. Methods of education/outreach: inclusion in driver education courses and manuals, insurance

and AAA newsletters, association meetings, billboards, media, distribution of information to major employers, present information on state maps, and consistent procedures.

- a. Traffic Incident Management Awareness*
- b. Incident Clearance Legislation*
- c. Crash Investigation Sites*
- d. Enhanced Reference Signs*
- e. Effects of “Rubbernecking”*
- f. Secondary Incidents*
- g. Reporting Incidents*
- h. Dangers of Cell Phone Usage While Driving*
- i. Awareness of Internet Based Document Repository*

O6. Commercial Driver Education / Outreach Programs

- a. Include Enhanced Reference Sign Education in Commercial Driver Licensing*

Licensed commercial vehicle operators often report incidents. As a result, they should be properly trained and tested on the use of enhanced reference signs.

O7. Tourist Education / Outreach Programs

- a. Work with the Greater Milwaukee Visitors and Convention Bureau, Bureau of Tourism, Event Operators, and Chambers of Commerce to Manage/Improve Tourism Traffic Impacts*

Develop a coordination program to improve traffic management for planned special events.

O8. Enhanced Media Information / Dissemination

- a. Traffic Media Support*

Support Traffic Media (e.g. AM/FM radio stations, TAR, Traveler Advisory Telephone, cable television, internet, etc.) by disseminating timely and accurate traffic information

The draft WisDOT ITS Program Project Submittal Forms contain additional project information pertaining to state fiscal year of deployment, sponsor, project participants or origin, project description, earmarking consideration, consultant services, project schedule or milestones, project costs, and evaluation provisions. A separate draft WisDOT ITS Program Project Submittal Form has been developed for each TIME Solution or group (“family”) of solutions. These draft forms are intended for use when submitting projects to the Wisconsin Department of Transportation Central Office for funding consideration. Appendix B contains the draft WisDOT ITS Program Project Submittal Forms and order of magnitude cost estimates (Note: The order of magnitude cost estimates are based on year 2000 dollars).

3.3 TIME Blueprint Solution Matrix

For reference purposes the TIME Solutions are also documented in a matrix (Table 3.2) that illustrates each solution’s relationship with:

- Services, Products, Policy, Equipment, and System, and
- Program Administration, Coordination/Training/Services, Traveler Information/Traveler Management, and Highway Infrastructure.

3.4 Six-Year WisDOT District 2 ITS Work Plan

The Freeway Incident Management Team participated in solution prioritization exercises to determine the appropriate time frame for implementing solutions. Based on their understanding of the solutions as well as prior transportation planning and incident management experience, the Freeway Incident Management Team recommended the following implementation time periods for the TIME Solutions:

1. Short Term (0-3 years);
2. Medium Term (3-6 years); and
3. Long Term (6+ years).

The results of this activity were further refined to propose a specific year of deployment. As a result, the Six-Year WisDOT District 2 ITS Work Plan (Table 3.3) shows the

proposed state fiscal year of deployment and the estimated funding required for each TIME and MONITOR solution.

The Six-Year WisDOT District 2 ITS Work Plan will be updated quarterly by the Program Administration Staff to accommodate the dynamic needs of a Regional Incident Management / ITS Program.



Table 3.2
TIME Blueprint Solution Matrix



	Program Administration	Coordination/Training/Services	Traveler Information/Information Management	Highway Infrastructure
Services	E1.(a-h) TIME Program Administration C1. Regional ITS Architecture Administration C13.(a-d) Incident Management Evaluation Program O2.(a-b) Statewide ITS Coordination	E4.(a-d) Freeway Safety Patrols E5.(a-b) HAZMAT Program E9.(a) TIM Demonstrations / Training Exercises E10.(a-b) Comprehensive Dispatcher Training E11. Freeway Law Enforcement Patrol E19.(a) Highway Watch	O8. (a) Enhanced Media Information/Dissemination	
Products	O1.(a-d) Market Research Study	E2. Emergency Respondent Resource Lists C2. Alternate Route Planning and Traffic Control Plans S1.(a-c) Special Event Trans. Standard Operating and Emergency Mgmt. Procedures O4.(a-f) Emergency Responder Education/Training Prog. O5.(a-i) Public Education/Outreach Programs O6.(a) Commercial Driver Education/Outreach Programs O7.(a) Tourist Education/Outreach Programs	S3.(a-b) Integration of Road Weather Information S5.(a-f) Special Event Traveler Information S6.(a-c) Transit Initiatives	E18.(a-b) Freeway Fire Hydrants C5.(a-b) Crash Investigation Sites C6.(a-b) Enhanced Reference Signs
Policy	O3. Build ITS into the State Project Process	E6. Inter-Jurisdictional Mutual Aid Agreements E7.(a-b) Traffic Incident Management Policies E8.(a-b) Operational Policies for CVOs	C3.(a) Traveler Information Standards	C19. Policies for Installing Integrated Corridors Comm. Conduit in Rehab./Recon. Projects
Equipment		E3. Emergency and Maintenance Vehicle Warning Sys.	E16.(a-b) Measuring Devices for Crash Investigation C11.(a-b) Probe Traffic Information	E12. Incident Management Equipment Alt. Storage Sites E13. Portable Changeable Message Signs C7.(a-e) Signal Enhancements C8.(a-b) Measures to Reduce Freeway Speed C9.(a-b) Variable Message Signs C15.(a-c) Ramp Closure Gates and Detour Signing C16.(a-c) Weather Info. Gathering and Dissemination Sys. S4.(a-b) Mobile Com. Post and Special Event Mgmt Sys.
System			E14.(a-j) TESCNET E15.(a) 911 Enhancements E17.(a) Voice Communications Enhancements C10. Regional Multi-Agency Traffic Management Center C12. In-Vehicle Traveler Information S2. Special Events Parking Management System	E20.(a-c) MONITOR CCTV Video Sharing C4.(a-c) MONITOR Expansion/Enhancements C14.(a-c) Frwy Access Enhance. for Emerg. Res. Veh. C17.(a-c) Locating Systems C18.(a-j) Integrated Corridors

Legend:

E = Emergency Services Subcommittee
C = Corridor Traffic Management Subcommittee
S = Special Event / Construction Subcommittee
O = Outreach Subcommittee

Table 3.3
Six-Year WisDOT District 2 ITS Work Plan

Project Tracking	TIME Blueprint Project ID	Project Title	WisDOT Project ID	LEAD AGENCY	Annual Operating and Maintenance Cost (\$1000)	Cost (\$1,000)								
						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
EMERGENCY SERVICES														
	E1	TIME Program Administration												
T9903	a.	TEA 21Earmark Administration and Technical Support		Consultant Services		600			600					
T9904	b.	District GCM Staffing and Administrative Support	1000-31-33	WisDOT		250	200	200	150	150	150	150	150	
T9905	c.	District 2 GCM Program Support		WisDOT		300			300	300	300	300	300	
T0201	d.	Regional Planning Commission ITS Plan Project		WisDOT					500					
T0106	e.	Transportation Operations Strategic Vision Development		WisDOT / Consultant				300						
	f.	Resource Opportunity Research		Consultant Services	17									
T0101	g.	Multi-Agency Collocation Project		WisDOT				400	400	400	400	400	400	
T9901, T0103, T0301	h.	TIME Program Technical Support	1000-41-00	Consultant Services		900		600		600		600		
		- Program Steering Committee												
		- Freeway Incident Management Team												
	E2	Emergency Respondent Resource Lists		Consultant Services	8.5				34					
T0001	E3	Emergency and Maintenance Vehicle Warning Systems					200							
	E4	Freeway Safety Patrols												
T9907	a.	Enhanced Freeway Patrols - Continuation		WisDOT										
T9907	b.	Enhanced Freeway Patrols - Expansion		WisDOT		3000				2000	2500	2500	2500	
	c.	Traffic Response Unit (Pilot: Racine/Kenosha)		WisDOT	110			307						
T0110	d.	Remote Incident Traffic Control		WisDOT	30			500						
	E5	HAZMAT Program			38.5				102					
	a.	HAZMAT Clearance Enhancement Program		WisDOT / Consultant										
	b.	Training/Improved Awareness for HAZMAT		WisDOT / Consultant										
	E6	Inter-Jurisdictional Mutual Aid Agreements		WisDOT / Consultant	8.5					20				
	E7	Traffic Incident Management Policies			34									
	a.	Incident Command System Policy		WisDOT / Consultant										
	b.	Emergency Flashing Lights Policy		WisDOT / Consultant										
	E8	Operational Policies for CVOs			5					151				
	a.	Heavy Vehicle Clearance Recommendations		WisDOT / Consultant										
	b.	Legislation to Reduce Trucking Related Incidents		WisDOT / Consultant										

Table 3.3
Six-Year WisDOT District 2 ITS Work Plan

Project Tracking	TIME Blueprint Project ID	Project Title	WisDOT Project ID	LEAD AGENCY	Annual Operating and Maintenance Cost (\$1000)	Cost (\$1,000)								
						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
EMERGENCY SERVICES (CONTINUED)														
	E9	Traffic Incident Management Demonstration / Training Exercises			30									
	a.	On-Going Joint Agency Exercise		WisDOT / Consultant										
	E10	Comprehensive Dispatcher Training			30									
	a.	Dispatcher Enhanced Reference Marker Education		WisDOT / Consultant										
	b.	Evacuation and Alternate Routes		WisDOT / Consultant										
	E11	Freeway Enforcement Patrol		WisDOT / Consultant					42.5					
	E12	Incident Management Equipment Alternate Storage Sites		WisDOT	33					791.4				
	E13	Portable Changeable Message Signs		WisDOT	8.75					209				
	E14	TESCNET												
T9908	a.	TESCNET Inter-CAD - Phase 2B		WisDOT		500								
T0003	b.	TESCNET Inter-CAD - Phase 2C					500							
T0109	c.	TESCNET Inter-CAD - Phase 3 and 4	1000-43-03	WisDOT / Consultant	80			1000						
T0202	d.	TESCNET Inter-CAD - Phase 5 and 6 Design		Consultant Services					800					
T0302	e.	TESCNET Inter-CAD - Phase 5 and 6 Deployment			90					2500				
T0004	f.	TESCNET Emergency Service Video and Data Sharing - Pilot	1000-31-38				235							
T0005, T0203	g.	TESCNET Backbone Fixed Plant Design and Procurement		Consultant Services			500		1500					
T0303	h.	TESCNET Backbone Wireless			80					2000				
	i.	AVL (Emergency/Maintenance/Transit Vehicles)		WisDOT	20						251			
T0002, T0108	j.	LifeLink Design and Deployment		Consultant Services	90		500	1400						
	E15	911 Enhancements												
	a.	Emergency Telephone Call-In 911 Enhancements				Costs assumed by telephone companies / cellular providers								
	E16	Measuring Devices for Crash Investigation												
T0112	a.	"Total Station" Survey System and Laser Measuring Devices for Crash Investigation	1000-43-11	WisDOT				200						
	b.	Aerial Photography		WisDOT	30					300				
	E17	Voice Communication Enhancements			50			502						
	a.	FIRECOM												

Table 3.3
Six-Year WisDOT District 2 ITS Work Plan

Project Tracking	TIME Blueprint Project ID	Project Title	WisDOT Project ID	LEAD AGENCY	Annual Operating and Maintenance Cost (\$1000)	Cost (\$1,000)								
						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
EMERGENCY SERVICES (CONTINUED)														
	E18	Freeway Fire Hydrants												
	a.	Fire Hydrant Location Identification		Consultant Services	2.1			93						
	b.	Additional Freeway Fire Hydrants		Consultant Services	30								960	
	E19	Highway Watch			25.5				51					
	a.	Permanent Highway Watch Incident Detection/Verification Program		WisDOT										
	E20	MONITOR Closed Circuit Television (CCTV) Video Sharing												
T0107	a.	Emergency Responders		WisDOT / Consultant	50			500						
	b.	Maintenance Departments		WisDOT / Consultant	50						500			
T9906	c.	Aerial Surveillance Expansion	1000-31-42	WisDOT	50	500						500		

Table 3.3
Six-Year WisDOT District 2 ITS Work Plan

Project Tracking	TIME Blueprint Project ID	Project Title	WisDOT Project ID	LEAD AGENCY	Annual Operating and Maintenance Cost (\$1000)	Cost (\$1,000)								
						SFY 1999	SFY 2000	Short Term		Medium Term			Long Term	
						SFY 1999	SFY 2000	SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
CORRIDOR TRAFFIC MANAGEMENT														
	C1	Regional ITS Architecture Administration		Consultant Services	100									
T0117	C2	Alternate Route Planning and Traffic Control Plans		Consultant Services				300						
	C3	Traveler Information Standards			17				102					
	a.	VMS Operation Policy		Consultant Services										
	C4	MONITOR Expansion / Enhancements												
	a.	Establish MONITOR Archival Data Support		Consultant Services	50					504				
	b.	Enhanced MONITOR Operations		Consultant Services	34				68					
	c.	MONITOR 2010		Consultant Services	2000					3000	2000	10000	2000	
	C5	Crash Investigation Sites												
T0205, T0308	a.	Crash Investigation Sites Design and Construction		WisDOT / Consultant	70				300	2000				
T0115	b.	Crash Investigation Sites Maintenance		WisDOT				100	200	200	200	200	200	
	C6	Enhanced Reference Signs												
T0206, T0309	a.	Enhanced Reference Signs Design and Construction		WisDOT / Consultant	50				50	450				
T0207	b.	Enhanced Reference Signs Maintenance		WisDOT					200			400		
	C7	Signal Enhancements												
	a.	Signal System Hardware Upgrades		WisDOT / Consultant	100							1000		
	b.	Surface Street Electronic Traffic Monitoring		WisDOT / Consultant	600					6000				
	c.	Traffic Signal and Ramp Meter Integration		WisDOT / Consultant	10						100			
	d.	Enhanced Emergency Responder Traffic Signal Control		WisDOT / Consultant	10						100			
	e.	Inter-Jurisdictional Traffic Signal Coordination		WisDOT / Consultant	50				304					
	C8	Measures to Reduce Freeway Speed												
	a.	Use of Traffic Warnings - Converging Chevrons, Flashing Lights		WisDOT	35.6						746			
T0111	b.	Speed Incident Prevention Project		WisDOT	80			800						

Table 3.3
Six-Year WisDOT District 2 ITS Work Plan

Project Tracking	TIME Blueprint Project ID	Project Title	WisDOT Project ID	LEAD AGENCY	Annual Operating and Maintenance Cost (\$1000)	Cost (\$1,000)								
						SFY 1999	SFY 2000	Short Term		Medium Term			Long Term	
						SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007		
CORRIDOR TRAFFIC MANAGEMENT (CONTINUED)														
	C9	Variable Message Signs												
	a.	Delay Signing at Ramp Meters		WisDOT / Consultant	30						300			
	b.	Variable Message Signs Mounted on Pre-Existing Exit Signs for Emergency Information		WisDOT / Consultant	20							200		
	C10	Regional Multi-Agency Traffic Management Center		WisDOT / Consultant	500					2000				
	C11	Probe Traffic Information			50							500		
	a.	Transit		WisDOT / Consultant										
	b.	Maintenance		WisDOT / Consultant										
	C12	In-Vehicle Traveler Information		WisDOT / Consultant	75							284		
T9902	C13	Incident Management Evaluation Program	1000-41-04			400		300		300		300		
	a.	Phase 1		Consultant Services										
	b.	Phase II		Consultant Services										
	c.	Phase III		Consultant Services										
	d.	Phase IV		Consultant Services										
T0304	C14	Freeway Access Enhancements for Emergency Response Vehicles							1000					
	a.	Freeway Access Enhancements for Emergency Response Vehicles		Consultant Services										
	b.	Traffic Signal and Ramp Meter Emergency Vehicle Preemption		Consultant Services										
	c.	Freeway Design Enforcement Accommodations		Consultant Services										
	C15	Ramp Closure Gates and Detour Signing												
T0208	a.	Ramp Closure Gates	1000-43-07	WisDOT	50				500					
	b.	Signs for Detour Routes		Consultant Services	42				320.5					
	c.	"Trail Blazer Route Guidance Signing		Consultant Services										
	C16	Weather Information Gathering and Dissemination System												
	a.	Weather Information Gathering System and Dissemination Equipment		Consultant Services	15							200		
	b.	Mobile Pavement Temperature Sensors and Weather Information		Consultant Services	15							200		
	c.	Automated Weather Information		Consultant Services	10							100		
	C17	Locating Systems												
	a.	Mayday Systems/GPS Locating Systems		Consultant Services	50						750			
	b.	Cellular Telephone Locating Systems		Consultant Services	Costs assumed by telephone companies / cellular providers									
	c.	AVL		Consultant Services	20					251				

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						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
CORRIDOR TRAFFIC MANAGEMENT (CONTINUED)														
	C18	Integrated Corridors												
T9910	a.	Integrated Corridors Test Segment Design	1000-41-01	Consultant Services		500		500						
T0116	b.	Integrated Corridors Test Segment Construction	1000-31-25	WisDOT	120			2500						
T0209	c.	Integrated Corridor - 894/45 Design		Consultant Services					1000					
T0310	d.	Integrated Corridor - 894/45 Construction		WisDOT	230					5000				
T0210	e.	Integrated Corridor - 894/43 Design		Consultant Services					1000					
T0311	f.	Integrated Corridor - 894/43 Construction		WisDOT	230					5000				
T0401	g.	Integrated Corridor - 43/Marquette Interchange Design		Consultant Services							2000			
T0501	h.	Integrated Corridor - 43/Marquette Interchange Construction		WisDOT	460							10000		
T0502	i.	Integrated Corridor - 94 Racine/Kenosha Design		Consultant Services								400		
T0601	j.	Integrated Corridor - 94 Racine/Kenosha Construction		WisDOT	100								2000	
	C19	Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation/Reconstruction Projects		Consultant Services	2.5				40					

Table 3.3
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						SFY 1999	SFY 2000	Short Term		Medium Term			Long Term	
						SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007		
SPECIAL EVENTS / CONSTRUCTION														
	S1	Special Event Transportation Standard Operating and Emergency Management Procedures (SO/EMP)												
T9909	a.	SO/EMP Manual		Consultant Services	34		100							
	b.	Emergency Evacuation Plans		Consultant Services	32					268				
	c.	Pre-Planning for Special Events/Tourism/Construction Activities		Consultant Services	50									
T0114, T0307	S2	Special Events Parking Management System	1000-43-04 1000-43-06	WisDOT / Consultant	30			400		2000				
	S3	Integration of Road Weather Information												
	a.	Weather Information Study		Consultant Services	17				102					
	b.	Freeway Emergency Guidelines		Consultant Services	17					51				
	S4	Mobile Command Post and Special Event Management System												
T0113	a.	Regional Mobile Command Posts		WisDOT	50			1000						
T0305	b.	Portable ATMS for Special Events		WisDOT	60				900					
	S5	Special Event Traveler Information												
T0204, T0306	a.	Special Event Database		Consultant Services	40				400	1600				
	b.	Kiosks		WisDOT	30					368				
	c.	Transit Information at Park and Ride Lots		WisDOT	50							524		
	d.	Internet Repository		Consultant Services	35				105					
	e.	Media Partnerships		Consultant Services	1				17					
	f.	"Out of County" Driver Information		Consultant Services	8.5							34		
	S6	Transit Initiatives												
	a.	Kiosks		WisDOT / Consultant	30				368					
	b.	SMART Bus		WisDOT / Consultant	100								1068	
	c.	Transit Traffic Signal Prioritization		WisDOT / Consultant	50					551				

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						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
OUTREACH														
	O1	Market Research Study			15				150					
	a.	Motorist/Market Research Study		Consultant Services										
	b.	ITS Branding Initiative		Consultant Services										
	c.	Public Opinion/Response Survey		Consultant Services										
	d.	Traveler Information Public Opinion Survey		Consultant Services										
	O2	Statewide ITS Coordination			45									
	a.	Statewide ITS Users Group		Consultant Services										
	b.	Annual Workshop of all Statewide ITS Projects		Consultant Services										
	O3	Build ITS into the State Project Process (Design and Funding)		WisDOT / Consultant	2				17					
T0105	O4	Emergency Respondent Education / Training Programs						500						
	a.	Education/Outreach on Incident Clearance Legislation		Consultant Services										
	b.	Education/Outreach on Crash Investigation Sites		Consultant Services										
	c.	Emergency Respondent Safety and Incident Management Procedures Implementation Program and Training		Consultant Services										
	d.	Provide Specialized Automobile Emergency Response (Extrication) Training		Consultant Services										
	e.	Incorporate Traffic Incident Management into Required (Annual) Law Enforcement Training		Consultant Services										
	f.	Traffic Incident Management Demonstrations/Training Exercises		Consultant Services										
T0104	O5	Public Education / Outreach Programs						200	200	200	200	200	200	
	a.	Traffic Incident Management Awareness		Consultant Services										
	b.	Incident Clearance Legislation		Consultant Services										
	c.	Crash Investigation Sites		Consultant Services										
	d.	Enhanced Reference Markers		Consultant Services										
	e.	Effects of "Rubbernecking"		Consultant Services										
	f.	Secondary Incidents		Consultant Services										
	g.	Reporting Incidents		Consultant Services										
	h.	Dangers of Cell Phone Usage While Driving		Consultant Services										
	i.	Awareness of Internet Based Document Repository		Consultant Services										
	O6	Commercial Driver Education / Outreach Programs			3				30					
	a.	Include Enhanced Reference Sign Education in Commercial Driver Licensing		Consultant Services										
	O7	Tourist Education / Outreach Programs			40.5						383			
	a.	Work with the Greater Milwaukee Visitors and Convention Bureau, Bureau of Tourism, Event Operators, and Chambers of Commerce to Manage/Improve Tourism Traffic Impacts		Consultant Services										
	O8	Enhanced Media Information / Dissemination		Consultant Services	15				200					
	a.	Traffic Media Support	1000-42-19 1000-43-12	WisDOT				700						
TOTAL					6982	6950	2235	13302	10153	37575	11319	28950	10318	2552

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Six-Year WisDOT District 2 ITS Work Plan

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								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
MONITOR 2000														
M9901	M1	Stage 4 Construction	1000-95-97			6000								
M9902	M2	Special Events Stage Construction (Miller Park)	1000-95-98			6000								
M9903	M3	Stage 5 Construction	1000-95-94			3200								
M9904	M4	Stage 6A Design	1000-42-18	Consultant Services		750								
M0101	M5	Stage 6A Construction	1000-95-99		90			3375						
M0102	M6	Communications Infrastructure Construction			120			5000						
M0103	M7	Stage 6B Design	1000-43-05	Consultant Services				1000						
M0201	M8	Stage 6B Construction	1000-95-99		40				7000					
MONITOR 2010														
M0301	M9	MONITOR 2010 Preliminary Engineering		Consultant Services					3000					
M0401	M10	2010 Stage 1 Design								2000				
M0501	M11	2010 Stage 1 Construction									10000			
M0601	M12	2010 Stage 2 Design										2000		
CONTROL CENTERS AND SYSTEMS														
M9905	M13	MONITOR Web Page	1000-31-36			50								
M9906	M14	MONITOR - Transit Integration Pilot Project	1000-31-39			300								
M0302	M15	TMC Design		Consultant Services					1000					
	M16	TMC Construction								4000				
M9907	M17	Computer System Update (Y2K Fix)	1000-42-18	Consultant Services		600								
M0010	M18	Computer and Control System Upgrade - Phase 1		Consultant Services			750							
M0202	M19	Computer and Control System Upgrade - Phase 2		Consultant Services				5000						
M0104	M20	System Software Update		Consultant Services				500		500		700		
SUPPORT TECHNICAL SERVICES														
M0105	M21	Freeway Corridor ATMS Maintenance and Integration	1000-41-02	Consultant Services				1000	1300	1300	1500	1500	1500	
M0203	M22	Systems Engineering and Configuration Management		Consultant Services					400		400		400	

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Six-Year WisDOT District 2 ITS Work Plan

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						SFY 1999	SFY 2000	Short Term			Medium Term			Long Term
								SFY 2001	SFY 2002	SFY 2003	SFY 2004	SFY 2005	SFY 2006	SFY 2007
SUPPORT TECHNICAL SERVICES (CONTINUED)														
M9908	M23	System Evaluation and Technology Development	1000-42-13			400		600		600		600		
M0204	M24	Education, Training, and Awareness		Consultant Services					400		400		400	
M9909	M25	Control Room Technical Support and Training	1000-43-09 1000-43-13	Consultant Services		400		800		800		800		
TOTAL					250	17700	750	12275	14100	7200	8300	13600	4300	0

Chapter 4

Regional Intelligent Transportation System (ITS) Architecture

4.1 Introduction

The TIME Program is a source of a wide variety of traffic incident management solutions, many of which are Intelligent Transportation System (ITS) technologies. The federal government now requires ITS initiatives to be in compliance with the National ITS Architecture and subsequently Regional ITS Architectures. This chapter addresses the Southeastern Wisconsin Regional ITS Architecture in terms of its development/purpose, organizational and geographical limits, process, documentation, and maintenance. Also included in this chapter, is an introduction to the Communications Data System Infrastructure (CDSI) project, which describes the physical communication infrastructure of the ITS Architecture.

4.2 Southeastern Wisconsin Regional Intelligent Transportation System (ITS) Architecture

4.2.1 Development / Purpose

The Southeastern Wisconsin Regional ITS Architecture was developed to address interagency coordination among transportation and public safety organizations in the region that provide transportation services.

Information exchanged among transportation and public safety organizations must be timely, accurate, useful, and consistent to enable these organizations to fulfill their functions. As demand for related services increases and organizational responsibilities increase, existing systems owned and operated by these organizations will require enhancements. Transportation and communications technology is growing exponentially, providing multiple solutions to real or perceived system deficiencies.

In order to address these increased demands in a logical, efficient, and readily understandable manner, a common method of describing these systems and proposed enhancements is needed, readily available to all participating organizations.

Any architecture shows the relationships established by interconnections among system elements. In an ITS regional architecture, these elements include transportation user services performed, actual subsystems owned or operated by each participating organization, and the information flows among them.

Two important uses of the Architecture are to provide a comprehensive description of the existing transportation infrastructure in the region and to provide a baseline for future infrastructure and system development.

The Architecture shows what regional transportation-related organizations are doing today, and the subsystems, information flows, and processes that make these activities possible. It does so in the language and grammar defined by the FHWA National Architecture and satisfies the interim federal regional architecture requirement. It should also be one of several regional architectures developed and eventually integrated into the Wisconsin ITS Architecture, in order to provide a consistent platform for ITS project evaluation across the state.

Planned subsystems and information flows are also included and flagged in the architecture, to show the direction of transportation communications infrastructure evolution. Future transportation projects can be readily entered into the architecture, allowing the proposed informational connectivity to be compared with existing and planned conditions. This is expected to be the more important of the two uses, as regional ITS architectural compliance is and will remain a requirement for federal ITS project funding.

4.2.2 Organizational and Geographical Limits

Organizations included in the Architecture are public and private organizations that perform transportation and public safety functions. These include state, county, and municipal traffic agencies, emergency service providers (law enforcement agencies, emergency medical responders, fire departments, and tow service providers), media, and information service providers (ISPs).

The geographical extent of the Architecture extends from Walworth, Waukesha, and Washington counties in the west to Kenosha, Racine, Milwaukee, and Ozaukee counties in the east. Information flow connections crossing the line bounding these counties are considered to end in generic “terminators” in order to make the Architecture geographically extensible.

4.2.3 Process

Stakeholders in the process were identified, and a list was made of 162 stakeholders in the region. Workshops were held with key stakeholders to inform them and discuss architectural issues. Formal and informal interviews of key stakeholders followed. An Architectural Questionnaire was designed and mailed to all stakeholders on the list. Responding agencies had their data entered into the database and the resulting database reports were mailed back to the responders.

An important difference between this approach and others (for example, that shown at the three-day FHWA-sponsored Regional Architecture Workshop in Milwaukee last fall) is that the development process followed was additive, not subtractive. If a flow could not be documented by the agency receiving or transmitting it, it was not included in the database. In contrast, subtractive processes usually start with a large number of subsystems and flows and subtract from these based upon stakeholder input, sometimes ending up with flows that are not fully known or understood. If new flows are the purpose of future projects, confusion and possible duplication could result.

A second important difference between this approach and that of the National ITS Architecture concerns the voice communications issue. This issue has followed the National ITS Architecture from its inception; many opinions exist and resolution is uncertain. If the Architecture ignores flows that include voice, the requirements for most existing transportation services cannot be accommodated within the formal structure. Since these services obviously exist, it was essential to accommodate some information flows that are not automated and a "reasonability" rule was established that said if a particular flow could be expected to occur between two given subsystems, or a subsystem and a terminator, it was included whether or not it used voice communication. This greatly multiplied the flows to be considered and analyzed, but had the advantage that existing processes and services were specifically supported.

4.2.4 Documentation

The Architecture resides in a Microsoft Access database. This database was chosen for several reasons including ubiquity, ease of use, and some degree of commonality with the National ITS Architecture developed by the FHWA. This database provides a compact representation of all aspects of the Architecture and may be readily accessed by standard database queries written in Structured Query Language (SQL).

Architectural data enters the database through the use of several software "forms" that organize architectural elements into fields in several related tables. Many fields in the forms are optional, and some "comment" fields are supported. The database also includes tables from the National ITS Architecture, Version 2.0, to define and describe architectural elements to the database user and the stakeholders.

Information is extracted from the database either through the use of SQL or by using programmed database reports, which organize and format the information in specific patterns. Two reports currently available in the database are Architectural Information by Agency, showing the services performed, the subsystems owned and operated, and the processes performed by each subsystem; and Architecture Flow by Agency, showing information exchanged among subsystems or subsystems and terminators belonging to

different organizations. Additional information regarding the Southeastern Wisconsin Regional ITS Architecture, including these two reports, can be obtained by contacting the WisDOT District 2 Traffic Operations Center.

4.2.5 Maintenance

The Southeastern Wisconsin Regional ITS Architecture will need to be updated and upgraded as new projects are planned and the FHWA rules pertaining to architectural consistency and compliance are announced. It has been recommended that a specific agency or group accept responsibility for the Architecture and its access and upkeep. Two possible custodians are the Bureau of Automation Services (B.A.S.) in WisDOT's central office and the Southeastern Wisconsin Regional Planning Commission (SEWRPC).

The TIME program in WisDOT District 2 can serve as a source of information for future ITS projects as they reach the planning and funding stages. Feedback on architectural aspects could help to remove or lower barriers to ITS project approval.

Finally, the Architecture will require upgrading to be compatible with more recent versions of the National ITS Architecture. Nomenclature of architectural elements has already changed significantly and new services and processes have been added in the latest versions. For example, the Data Dictionary has changed and National ITS Architecture Version 2.0, upon which the Architecture is based, is incompatible with a useful, graphically oriented software tool called Turbo Architecture.

Turbo Architecture has the useful ability to produce agency-centered graphics automatically from its database and is required to be compatible with FHWA Version 3.0 and later. Graphics are far easier for stakeholders to understand than are database reports, when representing multiple information flows among organizations.

4.3 Communications Data System Infrastructure (CDSI) Executive Summary

CDSI Implementation Memorandum

The CDSI will be implemented by projects associated with either the Traffic Incident Management Enhancement Program or the MONITOR Program. This memorandum consists of the cable system design, the hub requirements, and a list of potential projects. The projects implement the cable design and the hub requirements.

The potential projects include the priority of the project, its associated program, the construction cost, and any associated recurring cost such as leased-circuit charges. These estimates are very preliminary and should include an appropriate contingency budget until detailed specifications can be developed.

The video network is depicted in Figure 1. Video switches and multiplex will be installed at the ZOO, BAY, and MIT Hubs. The Fiber Optic Cable Design is depicted in Figure 2.

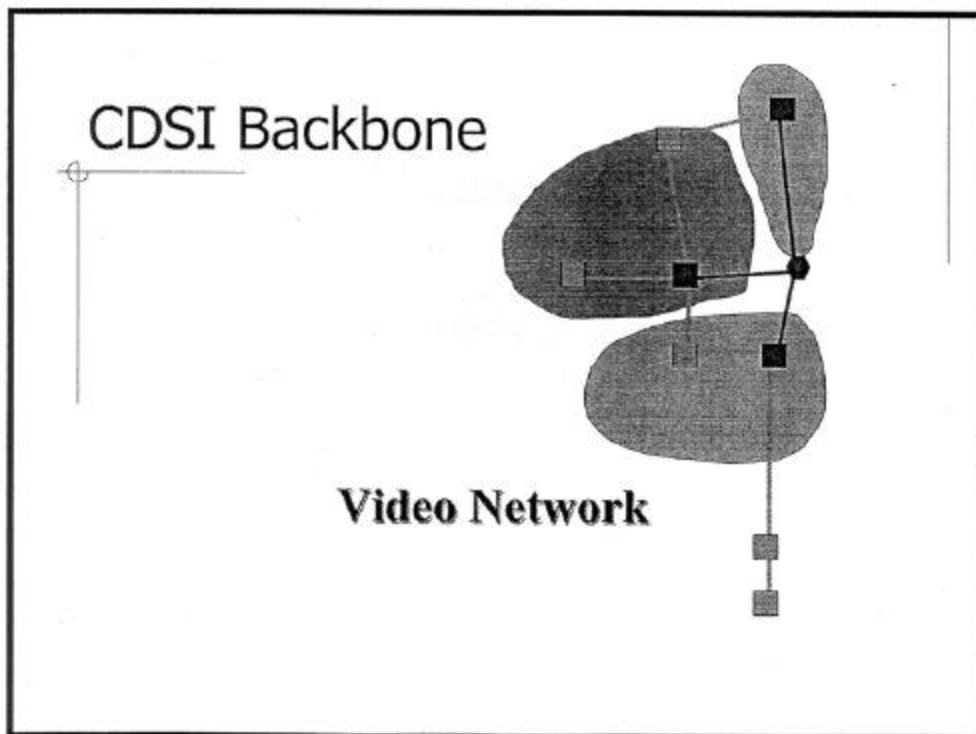


Figure 1 Video Network

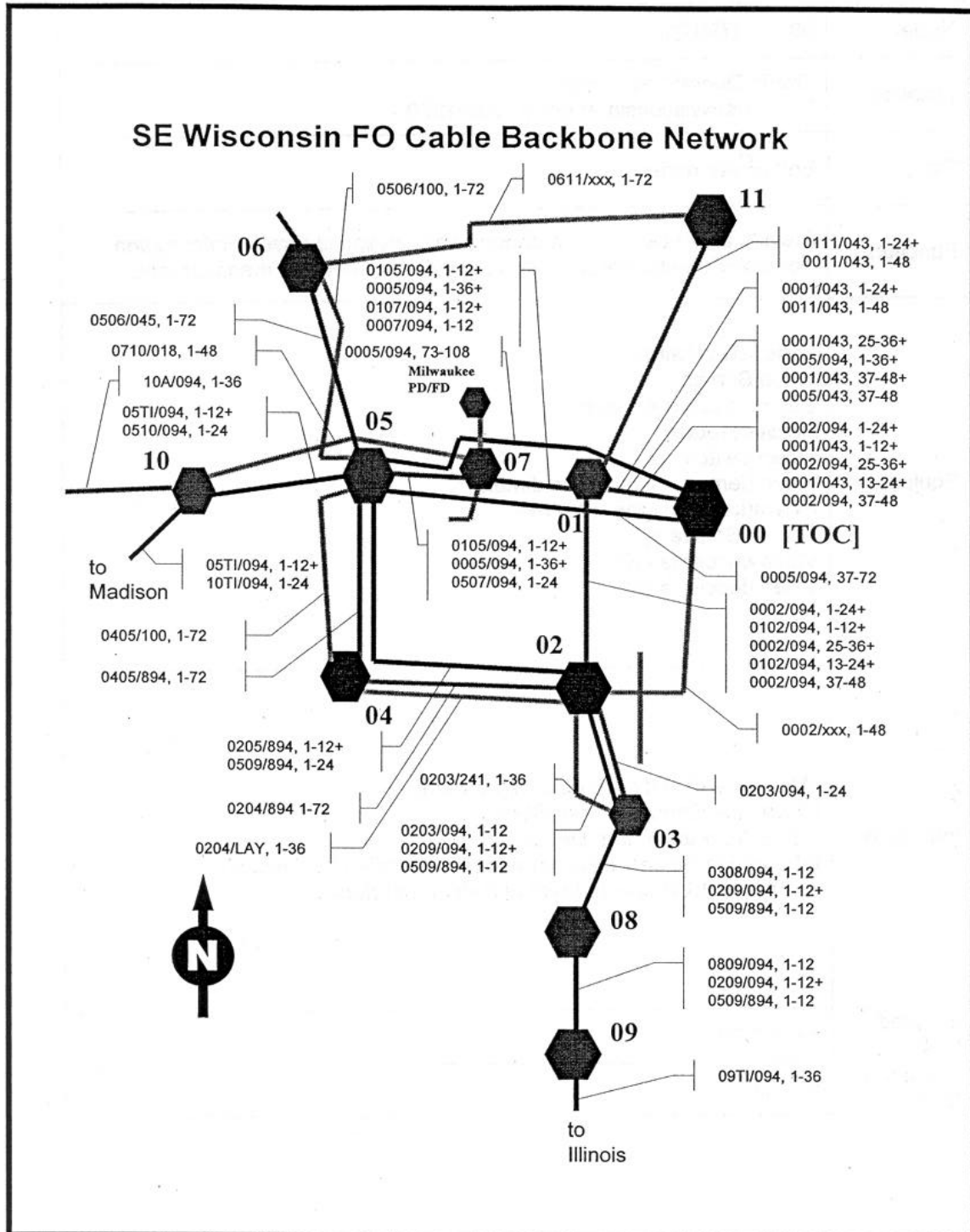


Figure 2 Fiber Optic Cable Design

Node	00 (TMC)
Location	Traffic Operations Center 633 West Wisconsin Avenue, Suite 1200
Type	Equipment node
Function	Provide advanced traffic management, advanced traveler information, video on demand (freeway and arterial), and network management.
Equipment	Edge ATM Switch Video Server Communications Server Network router Video Switch Video demux (match to field mux) Network management server ATMS (Software) Video encoders (10) Video decoders (6)
Interfaces	Milwaukee County Sheriff's Department Milwaukee County Transit System City of Milwaukee Fire Department Information Service Provider and news media (TV stations) GCM MMTIS Gateway (data and video interface)
Installed Cost:	\$4,061,000
Recurring Cost:	\$609,150

Node	01 (MAR)
Location	I-94/I-43 Interchange
Type	Cable Node
Function	Provides interface between cables going north on I-43, west on I-94, and south on I-94.
Equipment	Cable termination panels
Interfaces	NA
Installed Cost:	\$616
Recurring Cost:	\$93

Node	02 (MIT)
Location	I-94 eastbound to I-894 westbound ramp at 20 th Street
Type	Equipment Node
Function	Provides cable terminations and video switching and termination.
Equipment	Cable termination panels Video Multiplex (16 channels) Video switch (40 inputs by 20 outputs) OC-12 ADM
Interfaces	NA
Installed Cost:	\$204,000
Recurring Cost:	\$30,600

Node	03 (7MI – Seven Mile Road)
Location	I-94 at 27 th Street
Type	Cable Node
Function	Provide cable termination and patching for fibers along I-94, south of the Mitchell Interchange and fibers along 27 th Street.
Equipment	Fiber termination panels
Interfaces	NA
Installed Cost:	\$616
Recurring Cost:	\$93

Node	04 (HAL – Hales Corners)
Location	I-43 and Highway 100
Type	Cable Node with future equipment node
Function	Interface between fibers on I-894 going east and west and arterial fibers on Layton Avenue and Highway 100
Equipment	Fiber termination shelves Video multiplex {16 channels} Video switch {40 inputs by 20 outputs} OC-12 add/drop multiplex Network router
Interfaces	Village of Hales Corners CCTV cameras along I-43
Installed Cost:	\$149,616
Recurring Cost:	\$22,442

Node	05 (ZOO – Zoo interchange)
Location	Highway 45 at Blue Mound Road
Type	Equipment Node
Function	Primary node for network. Interface cables and provide communications switching (ATM).
Equipment	Existing building will need to be replaced with 8 x 12 facility Video switch {60 inputs by 30 outputs} Video multiplex {24 channels} ATM switch {eight OC-12 ports, four 100 Base T Ethernet ports, ten sts-3 ports, ten video (NTSC) ports} Network router
Interfaces	Medical College of Wisconsin West Allis PD, FD and PW Wauwatosa PD State Fair Park Miller Stadium Milwaukee County Sheriff Mayfair Shopping Center
Installed Cost:	\$324,000
Recurring Cost:	\$48,600

Node	06 (NOR – North Hub)
Location	Highway 45 at Good Hope Road
Type	Cable Node and potential Equipment Node
Function	Terminates and cross connects
Equipment	Fiber termination panels Video demux OC-12 add/drop multiplex Ds-1 channel multiplex Network router
Interfaces	Menomonee Falls PD Village of Brown Deer -- Future -- Wisconsin State Patrol District 3 (Fond du Lac) WisDOT District
Installed Cost:	\$125,616
Recurring Cost:	\$18,842

Node	07 (STA – Stadium Hub)
Location	Highway 41 at Blue Mound Road
Type	Cable
Function	Provides interface between arterial cables on Blue Mound Road and I-94 freeway cables. Provides distribution cable to State Fair Park, Miller Stadium, and West Allis City Hall. Future interface to City of Milwaukee joint communications facility.
Equipment	Cable termination panels
Interfaces	City of West Allis State Fair Park Miller Park Stadium Wauwatosa Blue Mound Video City of West Milwaukee
Installed Cost:	\$616
Recurring Cost:	\$93

Node	08 (RAC – Racine County Hub)
Location	I-94 at Highway 20
Type	Equipment Node
Function	Provides video interface to concentrate information from cameras along I-94
Equipment	OC-12 add/drop multiplex with digital access switch Ds-1 channel multiplex Network router
Interfaces	Racine County Sheriff -- future -- City of Racine
Installed Cost:	\$125,000
Recurring Cost:	\$18,750

Node	09 (KEN – Kenosha Hub)
Location	I-94 at Wisconsin State Patrol Weigh Station
Type	Equipment Node
Function	Provides cable terminations and video switching and termination.
Equipment	Fiber termination panels Network router
Interfaces	Wisconsin State Patrol State of Illinois Kenosha County Sheriff
Installed Cost:	\$5,616
Recurring Cost:	\$843

Node	10 (GOE – Goerkes Corners)
Location	I-94 at Highway 18 (WSP District 2)
Type	Cable and Equipment
Function	Provides cable terminations and video switching and termination.
Equipment	Edge ATM Switch OC-12 add/drop multiplex Network Router
Interfaces	City of Brookfield Wisconsin State Patrol District 2 Waukesha County Sheriff WisDOT District 2 Signal Operations State of Wisconsin – Central Office WisDOT District 1
Installed Cost:	\$141,000
Recurring Cost:	\$21,150

Node	11 (BAY – Bayside Node)
Location	I-43 at Mequon Road (Exact location to be determined)
Type	Cable Node and potential Equipment Node
Function	Provides cable terminations and video switching and termination.
Equipment	Building Video multiplex (16 channels) Video switch (40 inputs by 20 outputs) OC-12 add/drop multiplex Edge ATM switch
Interfaces	Ozaukee County Sheriff WisDOT District 3 TOC {future}
Installed Cost:	\$324,000
Recurring Cost:	\$48,600

Priority	Description	Program	Construction Cost	Recurring Charge
	Install fo cable between the North Hub and the Bayside Hub along Brown Deer Road	MONITOR	\$1,500,000	\$226,512
	Install cable from Marquette Node to Bayside Hub along I-39	MONITOR	\$1,304,000	\$195,624
	Splice Touch-America cable into ZOO Hub, MIT Hub, and GOE Hub	MONITOR	\$411,840	\$61,776
	Install cable from I-94 to District 2 Signal Operations and the Waukesha County Sheriff	MONITOR	\$411,840	\$61,776
	Install ATM equipment at the ZOO Hub and the TOC	MONITOR	\$428,500	\$64,275
	Install video switch and multiplex at the ZOO Hub, MIT Hub, BAY Hub and RAC Hub with matching equipment at TOC; develop operations software	MONITOR	\$64,000	\$9,600
	Install equipment at the WSP District 2 (GOE Hub)	TIME	\$14,100	\$2,115
	Install link to Racine County Sheriff	TIME	\$214,400	\$32,160
	Install Link to Kenosha County Sheriff	TIME	\$214,400	\$32,160
	Install link to Ozaukee County Sheriff	TIME	\$214,400	\$32,160
	Install arterial cable along Layton Avenue	MONITOR	\$412,000	\$62,000
	Install arterial cable along 27 th Street	MONITOR	\$412,000	\$62,000
	Install arterial cable along Greenfield	MONITOR	\$412,000	\$62,000
	Install arterial cable along Howell Avenue	MONITOR	\$412,000	\$62,000
	Connect southern end of Highway 100 cable to HAL Hub	MONITOR	\$274,560	\$20,592

Priority	Description	Program	Construction Cost	Recurring Charge
	Connect eastern end of Blue Mound cables to Hub 7. Provide cable to proposed Milwaukee FD and PD joint operations center.	TIME	\$137,280	\$20,600
	Install cable along Lake Michigan Parkway	MONITOR	\$412,000	\$62,000
	Install CDSI communications server, video server, and database server	TIME	\$44,000	\$6,600
	Link City of Milwaukee FD	TIME	\$214,400	\$32,160
	Link City of Brookfield	TIME	\$214,400	\$32,160
	Link City of West Allis	TIME	\$214,400	\$32,160
	Link Milwaukee County DPW	TIME	\$214,400	\$32,160
	Link Milwaukee County EMS	TIME	\$214,400	\$32,160
	Link Milwaukee County Transit System	TIME	\$214,400	\$32,160
	Link North Shore Fire Department	TIME	\$214,400	\$32,160
	Link Town of Brookfield	TIME	\$214,400	\$32,160
	Link Town of Waukesha Fire Department	TIME	\$214,400	\$32,160
	Link Village of Bayside	TIME	\$214,400	\$32,160
	Link Village of Brown Deer	TIME	\$214,400	\$32,160
	Link Village of Butler	TIME	\$214,400	\$32,160
	Link Village of Butler	TIME	\$214,400	\$32,160
	Link Village of Elm Grove	TIME	\$214,400	\$32,160
	Link Village of Fox Point Dispatch	TIME	\$214,400	\$32,160
	Link Village of Greendale	TIME	\$214,400	\$32,160
	Link Village of Hales Corners	TIME	\$214,400	\$32,160
	Link Village of Menomonee Falls	TIME	\$214,400	\$32,160
	Link Village of Pleasant Prairie	TIME	\$214,400	\$32,160
	Link Village of River Hills	TIME	\$214,400	\$32,160
	Link Village of Shorewood	TIME	\$214,400	\$32,160
	Link Village of West Milwaukee	TIME	\$214,400	\$32,160
	Link Village of Whitefish Bay	TIME	\$214,400	\$32,160

Priority	Description	Program	Construction Cost	Recurring Charge
	Link Village of Sturtevant PD	TIME	\$214,400	\$32,160
	Link Walworth County Sheriff	TIME	\$214,400	\$32,160
	Link Washington County Sheriff	TIME	\$214,400	\$32,160
	Install Lifelink Phase 1	TIME	\$3,200,000	\$480,000
	Install Lifelink Phase 2	TIME	\$2,000,000	\$300,000
	Install Lifelink Phase 3	TIME	\$2,000,000	\$300,000
	Link MMTIS Gateway	GCM	\$214,400	\$32,160
	Establish Link to Madison	TIME	\$214,400	\$32,160
	Install ICAD Hardware & Software	TIME	\$1,500,000	\$225,000

Assumptions:

1. **Cables:**

- A. Costing of installation for Fiber Optic Cables were calculated by the following:

Acquisition and Installation Price:

72 Count Fiber - \$3/Foot

6 Count Fiber - \$1.20/Foot

Conduit (4") - \$10/Foot

- B. Assumption was made for extending the Fiber Optic Cable 3 miles along the Arterials.

2. **Microwave System:**

- A. The Microwave cost was projected for a complete system which consists of the following:

- Two (2) 23 GHz radios
- One video plus two data channels
- Two 2' antennas
- Waveguide
- Mounting kits

Cost: \$27,000

- Cabling:

Cost: \$300

- Microwave Tower:

Cost: \$80,000

- Total Cost for System: \$107,200

3. Installation cost is assumed at 10% of equipment total cost.
4. Maintenance and replacement cost is assumed at 15%.
5. Lifelink estimates are rough figures based on the Southwest Research Institute and are unknown at this time.
6. Project priority assignments was not included in this memorandum. This Task will be determined by WisDOT.
7. A contingency factor of 100%, except for the LifeLink and ICAD projects, was used.
8. ICAD estimates are based on connecting 11 CAD systems.

Chapter 5

Incident Management Evaluation Program

5.1 Introduction

An important activity within the TIME Program is to consistently assess and evaluate the Program's effectiveness. The purpose of the evaluation is to measure and document both quantitative and qualitative values of the Program elements Measures of Effectiveness (MOEs) such as efficiency, cost, public perception, and inter-jurisdiction cooperation/coordination. This requires the development of a structured evaluation plan to be prepared and carried out by an independent evaluator or Evaluation Team. The TIME Program Evaluation Team consists of researchers from the University of Wisconsin – Madison and Marquette University with direction and support provided by the WisDOT and TIME Program consultant team.

Several key measures have been identified at the national level for ITS program evaluation consistency. These measures pertain to travel time/delay, crashes, fatalities, throughput, cost, and customer satisfaction, in addition to emissions reduction and fuel savings. Added to these are MOEs that relate specifically to the incident management process and the TIME Program goals and objectives. These MOEs include the time to detect, verify, respond to, and clear freeway incidents. The success of the TIME Program will also be determined by the extent that multiple jurisdictions and agencies work together.

5.2 Phase I Evaluation Results

Phase I included the evaluation of the following test plans:

- Test Plan 1: Enhanced Freeway Patrols and Gateway Patrols
- Test Plan 2: Crash Investigation Sites
- Test Plan 3: Transverse Pavement Markings
- Test Plan 4: Enhanced Reference Signs
- Test Plan 5: Computer Aided Dispatch (CAD)/ Emergency Respondent
- Test Plan 6: User Acceptance

Results of the Phase I Evaluation, are provided in subsequent sections of this chapters.

5.2.1 Enhanced Freeway/Gateway Patrols

The WisDOT implemented two motorist assistance programs to better serve the motoring public traveling along portions of the I-94 corridor. The “Gateway Patrol” program serves the Racine and Kenosha County freeway system and the “Enhanced Freeway Patrol” program serves the Milwaukee County freeway system.

Almost three-quarters of the motorists traveling the Racine-Kenosha I-94 corridor who received assistance from Gateway Patrol Program tow trucks were stranded for a time not exceeding 10 minutes. Average time spent providing service was 15 minutes, ranging from a low of 5 minutes to report an abandoned vehicle to a high of 36 minutes when towing from a crash scene was required. A 14% decrease in the number of secondary collisions associated with a downstream collision was measured in the period following program implementation. The program was very well received by the motoring public as expressed in written comments received by the WisDOT. The most common comments were about fast and courteous service, however, most responding motorists were not aware of the program before they were assisted.

The Enhanced Freeway Patrol program allowed a higher level of enforcement along the East-West corridor (a 29% increase in traffic stops was observed along the “East-West” corridor). An 8% decrease in the number of secondary collisions associated with downstream incidents was measured in the period following program implementation. Service to disabled vehicles was shortened by 1 minute on average (from 14 minutes to 13 minutes) and dispatches to crashes were shortened by 3 minutes on average (from 31 minutes to 28 minutes).

5.2.2 Crash Investigation Sites

Safety Benefits

The evaluation has been conducted on three existing crash investigation sites (CIS) in Racine and Kenosha counties. The crash data in 1997 is used as the “before” condition.

Note that construction occurred on the I-94 corridor from April 27, 1998, to October 22, 1998. The crash data from June 20, 1998, (official opening date of CIS) to December 31, 1998, is used as the “after” condition with construction and the crash data from October 22, 1998, to December 31, 1998, is used as the “after” condition without construction. In general, the secondary crash rate was reduced from 8.24% in 1997 to 5.15% in 1998. For the same periods from June 20 to December 31, the secondary crash rate was reduced from 4.92% in 1997 to 4.76% in 1998. Noticeably, after October 22, 1998 (when the construction ends), no secondary crashes were found. In conclusion, the implementation of Crash Investigation Sites is fairly successful and beneficial for reducing the chance of secondary crashes.

User's Perception

Based on the questionnaires returned from motorists, it is concluded that the users' perception of the CIS is positive and encouraging. Most of the CIS users agreed with the safety improvement benefits for performing their activities at CIS instead of being on the freeway shoulder.

1. In general, 24% of drivers reported that the CIS signs are quite useful for guiding them to the CIS sites. Note that another 57% of users who returned the forms were escorted to the site and didn't provide answers.
2. Regarding the provided space and location, 99% of users agreed and felt satisfied with the current design. However, one comment from users is that the site is too far from the town.
3. About 51% of users used the phone when it was available. Some motorists reported that they did not use the phone because they did not have change.
4. Considering the lighting condition, 46% of users reported that it is quite ample for them to perform operation. Note that another 54% of users who returned the forms were escorted to the site during daytime and didn't provide answers.

Agencies' Perception

From the agencies' perspectives, the implementation of the CIS program is quite successful and worked satisfactorily with the goals and objective of the TIME program. The benefits of the CIS perceived by the sheriffs and state patrol can be summarized as follows.

1. Reducing incident clearance time. This program will work very effectively with the gateway.
2. Reducing the chance of secondary incident.
3. Facilitating the operation.
4. Enhancing safety for the responding personnel. All officers are clearly realizing this advantage.

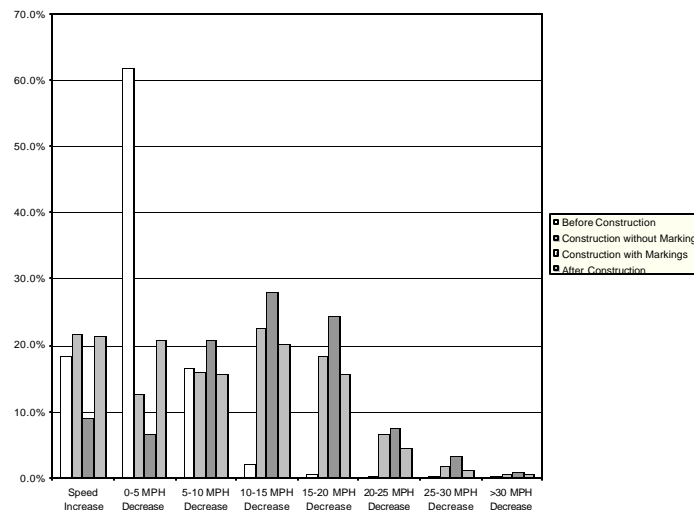
One useful comment from agencies upon the success of the CIS program is to inform the public about the function of the CIS. From the officers' observation and the lessons learned from other deployments of incident management programs, this step is the most crucial activity to maximize the advantages of the CIS.

5.2.3 Transverse Pavement Markings

Transverse pavement markings were placed on the westbound lanes of I-94 during Phase II of the repaving construction in 1999. The study was on a 3-mile stretch from Oakwood Road to Puetz Road. The transverse pavement markings did have an effect on further reducing speeds in construction zones. The changes in speed were recorded for all four scenarios: before construction, during construction without the transverse pavement markings, during construction with the transverse pavement markings, and after construction. As shown in the histogram, most vehicles have a 0-5 mph decrease in speed before construction. Once construction begins and no transverse pavement markings are in place, most vehicles have a 10-15 mph speed reduction. With the transverse markings in place, most vehicles have a 10-20 mph speed reduction. After construction, most vehicles again have a 0-5 mph speed reduction. The traffic flow on the roadway changes for different times of the day. This traffic flow had an effect on the

speeds experienced on the roadway, but had minor impact on the speed changes experienced by vehicles.

Figure 5.1
Frequency of Speed Change



5.2.4 Enhanced Reference Signs

The data collection is still in progress. A short survey questionnaire will be developed and distributed to 911 operators, dispatchers, and sergeants at the Milwaukee County Sheriff's Department. The questionnaire will be used to determine:

- The current level of usage of the Enhanced Reference Signs and mile markers by drivers in reporting incidents.
- Whether drivers experience difficulty in describing the location of incidents to operators.
- Any institutional issues that may limit the effectiveness and usage of Enhanced Reference Signs. For example, one issue that has been mentioned is the requirement by the state that cross-streets be used to identify the location of incidents in accident reports.

Sergeant Tom Smith has agreed to distribute and collect the surveys. It was determined from discussions with the Milwaukee County Sheriff's Department that it is not feasible to review tapes of 911 calls.

5.2.5 Computer Aided Dispatch (CAD)/ Emergency Respondent

The Milwaukee County Dispatch system is very outdated and needs to be upgraded. The many advantages of a CAD system definitely outweigh the disadvantages of having such a system. Implementing a CAD system that is tailored for use by law enforcement agencies or upgrading to faster computers could reduce many of the disadvantages of CAD.

5.2.6 User Acceptance

The purpose of this study was to evaluate the user's perception of the effectiveness and benefits of the TIME Program. To accomplish this, a survey questionnaire was developed and mailed to a random sample of 1,000 drivers in seven Southeastern Wisconsin counties during November 1999. The survey was composed of 42 questions designed to determine the public's awareness and perceptions of TIME in general and each component of the program in particular. Over 40% of those who received the survey completed and returned it. These survey responses were then used to determine the answers to the following key questions:

- **Is the public aware of Crash Investigation Sites?**

The majority of users (72%) stated that they had heard of Crash Investigation Sites and 34% indicated that they had a high level of familiarity with them. Yet when asked where they would go if involved in a minor accident, only 7% responded that they would use a crash investigation site. In fact, while the majority would move their vehicles off the freeway, either to the shoulder of the freeway (60%) or to a safe well-lit area (11%), a sizable proportion (21 %) would stay put. Of these users, 86% stated that they would do so because "they wanted the police to see the accident as it is". The low-level use of the crash investigation sites appears to be due in part to a lack of understanding or familiarity with the sites. After reading a description of the

sites, a majority (68%) stated that they would be willing to use a crash investigation site if they were involved in a minor accident in the future.

- **Is the public aware of 911 cellular service?**

Exactly half of the survey respondents own a cellular phone, and 25% have used it to report an accident or breakdown that they have seen accidents on the freeway. However, of those who do report accidents, 81% stated that they do so for less than 25% of the time. The most common reason users gave for not reporting an accident or breakdown was that they would assume that someone else already had.

- **Is the public aware of road marking systems?**

When asked to rank several options in terms of how likely would be to use them to report an accident or breakdown to a 911 operator, 36% selected mile markers as their first choice. Users in Kenosha, Racine, and Walworth counties were the most likely to use mile markers, with slightly more than half of the users in each of these counties selecting them as the option they would most likely use. However, the great majority of users did not know how long they could legally leave their cars on the freeway. Seventy five percent of users stated that they did not know the time limit and the responses of those who claimed they did know ranged from 0 to 72 hours with an average of 15 hours.

- **Is the public aware of expanded motorist information?**

A large proportion of users was aware of the existence of traffic information sources. In particular, users were very familiar with changeable message signs (86.8%), commercial radio (81%), local newspapers (79%), and commercial television (75%) as sources of travel information. Drivers were less likely however to use some of these sources. Only 7% stated that they use travel advisory radio, even though 25% were aware of it as a potential information source, and only 9% indicated that they used the Internet. Changeable message sign and commercial radio were the sources that the largest number of drivers (78% and 81%, respectively) stated they used. However, drivers indicated that they were using information about traffic congestion

to adjust their traffic plans. Fifty four percent reported that they adjusted the time at which they left to travel and 59% stated that they have adjusted their travel route within the past month. Almost all of the users (92%) also indicated that they considered the availability of information about traffic congestion and incidents to be important, with 62% indicating that it was very important. The majority of users also felt that the traffic information they were currently receiving was timely (61%) and accurate (70%).

- **What is the public's general perception of the TIME program?**

The great majority of the drivers (90%) indicated that they had never heard of the TIME Program. However, after reading a description of the program, their responses to TIME were overwhelmingly positive. Seventy one percent of the users considered it to be a "good to very good" use of money, 74% agreed that it would improve freeway safety and speed up the clearing of accidents, and 77% indicated that they believed it would improve the response times of emergency vehicles.

- **What is the public's perception of Southeastern Wisconsin's freeway services?**

Based on users' statements, the average time that it would take for emergency assistance to arrive was 32 minutes, while the average time that they felt it should take was 17 minutes. In addition, although 18% of users felt that the time for emergency assistance to arrive had decreased during the past year, the majority (57%) felt that it had stayed the same and 24% felt it had increased. Drivers also indicated that they were increasingly frustrated by their driving experience in general. Forty seven percent stated that the time they were delayed due to other people's accidents had increased during the past year and that their driving experience had worsened. A sizable proportion (12%) however, did indicate that their driving experience had improved and their delay had been reduced.

- **What is the public's perception of the freeway patrol?**

Most users felt that putting more police on the road during rush hour would improve freeway safety (60%), speed up the clearing of accidents (73%), and reduce the

number of accidents (50%). They did not feel positive, however, about the effects of more police on speeding the flow of traffic (27%) or on saving driving time (34%).

Based on these responses, it has been recommend that outreach and branding efforts be continued and strengthened. Users indicated that they were frustrated and unhappy with driving conditions in Southeastern Wisconsin. Users were also largely unfamiliar with the TIME Program. Yet, the large number of drivers who took the time to fill out the survey, as well as their largely positive response to the information they were given about the TIME programs, indicates that they have not crossed the threshold to being apathetic or antagonistic. They are still interested in and open to the efforts of the Wisconsin Department of Transportation, law enforcement, and other TIME participants to improve conditions.

5.3 Relationship of Evaluation Results to the TIME Program Goals, Objectives, and Potential Benefits

Another important aspect of the TIME Program Evaluation is to measure how well the results of the individual test plans support the goals and objectives of the TIME Program. This is necessary to determine if the TIME solutions are accomplishing their intended purposes in an effective manner. Table 5.1 uses a rating of high (H), medium (M), or low (L) to describe the level of support each Phase I test plan provides for the Program goals and objectives. A high level of support means that the test plan satisfies the goal/objective whereas a low level of support means that the test plan did not meet all of the expectations set by the goal/objective.

Table 5.1
Relationship of Evaluation Results to the
TIME Program Goals, Objectives, and Potential Benefits

TIME Program Goals	Elements Evaluated					
	Enhanced Frwy/ Gateway Patrols	Crash Investigation Sites	Transverse Pavement Markings	Enhanced Reference Signs	CAD/ Emergency Respondent	User Acceptance
1. Improve and Enhance Freeway Incident Management	H	H	L	H	H	L
2. Improve Freeway Safety	M	H	H	L	H	L
3. Enhance the Quality and Efficiency of Freeway Travel	M	M	L	M	L	L

* Support of Goals / Objectives: H = High, M = Medium, L = Low

Chapter 6

Program Administration

6.1 Introduction

Program Administration refers to the day-to-day and recurring activities and functions necessary to sustain an on-going program. It is important to identify the roles and responsibilities in terms of frequency of occurrence and who (Program Administrator or WisDOT) has the lead responsibility for each activity/function. This chapter defines the specific administrative needs and activities of the TIME Program, the Southeast Wisconsin Regional ITS Architecture, and the TIME Program Evaluation.

6.2 TIME Program Administration

To ensure effective administration of the on-going TIME Program and to facilitate phased deployment of solutions and strategies, it is important to clearly define activities and functions required to sustain the TIME Program. It is also important to document the frequency that these activities are to take place as well as who has lead responsibility and who has a support role in ensuring that these functions are conducted. Table 6.1 documents this for three categories of TIME Support:

- 1) General;
- 2) Steering Committee; and,
- 3) Freeway Incident Management Team and Committees.

Table 6.1
TIME Program Administration Roles and Responsibilities

Activity / Function	Frequency	Program Administrator	WisDOT	Notes
General (L = Lead S = Support)				
TOC Support	Daily	S	L	
Maintain Various ITS Databases	Bi-Annual	L	S	- TIME - TESCNET - GCM - Others
Meeting Coordination, Scheduling, and Arrangements	As Needed	L	S	- Distribute meeting notice at least two weeks prior to the meeting date
Program Correspondence	Daily	S	L	
Maintain Program Efficiency and Quality Control	Continuous	L	S	
Awareness of Other Related Activities / Initiatives	On-Going	L	S	
Research Support / Coordination	As Needed	S	L	
Budget	Monthly	L	S	

Table 6.1 (Continued)

Activity / Function	Frequency	Program Administrator	WisDOT	Notes
Steering Committee (L = Lead S = Support)				
Maintain Committee Database	Bi-Annual	L	S	
Steering Committee Meetings <ul style="list-style-type: none"> • Notices • Agenda • Committee Chair Briefing • Conduct Meetings • Meeting Summary 		L L S S L	S S L S S	- Distribute meeting notice at least two weeks prior to the meeting date - Conduct Committee Chair Briefing at least one week prior to the meeting date - Steering Committee Meetings are led by the Steering Committee Chair
Funding Assistance <ul style="list-style-type: none"> • Funding Requests / Submittals • Update Six-Year WisDOT District 2 ITS Work Plan 	Annual Quarterly	S S	L L	
Blueprint Update Activities <ul style="list-style-type: none"> • Form a Blueprint Update Task Force • Conduct One-On-One Meetings with Representative Steering Committee Members • Conduct Blueprint Update Technical Workshop • Documentation 	Three Years	L S S L	S L L S	- Steering Committee Chair(s) to take lead role
TIME Progress Report	Annual	L	S	- Distribute to Steering Committee and FIMT annually in late December or early January
Technical Presentations	As Needed	S	S	

Table 6.1 (Continued)

Activity / Function	Frequency	Program Administrator	WisDOT	Notes
FIMT (L = Lead S = Support)				
Maintain FIMT Database	Bi-Annual	L	S	
FIMT Meetings <ul style="list-style-type: none"> • Notices • Agenda • Conduct Meetings • Technical Presentations/ Debriefings • Meeting Summary 	Monthly	L S S S L	S L S S S	- Distribute meeting notice at least two weeks prior to the meeting date - Conduct FIMT Meetings on the fourth Wednesday of each month - FIMT Meetings led by FIMT chair
Technical Assistance <ul style="list-style-type: none"> • Non-PS&E • PS&E 	As Needed	L	S	
Emergency Services Committee (L = Lead S = Support)				
Freeway Safety Patrol(s) Coordination / Meetings	Bi-Monthly	S	L	- Gateway Patrols - Distribute meeting notice at least two weeks prior to the meeting date
Milwaukee County Sheriff Enhanced Freeway Patrol Contracts / Agreements	Three Year	S	L	
Racine/Kenosha Gateway Patrol Contracts / Agreements	Three Year	S	L	
Waukesha County Gateway Patrol Contracts / Agreements	Three Year	S	L	
Traffic Response Unit (TRU) Coordination / Meetings	Bi-Monthly	L	S	
TRU Contracts / Agreements	Three Year	S	L	
Resource Manual Updates	Bi-Annual	L	S	
Freeway Emergency Policies and Guidelines	As Needed	S	S	
Training Exercises/ Workshops/ Demonstrations	As Needed	S	L	
TESCNET / WESCom Coordination	On-Going	S	L	
Other Support	As Needed	S	L	

Table 6.1 (Continued)

Activity / Function	Frequency	Program Administrator	WisDOT	Notes
Corridor Traffic Management Committee (L = Lead S = Support)				
Regional ITS Architecture Administration Coordination	Quarterly	L	S	
Evaluation Coordination	Monthly	L	S	
Integrated Corridor Operations Project (ICOP) Coordination	Bi-Monthly	S	L	
Operations Issues	Monthly	S	L	
Management / Maintenance Issues	Monthly	S	L	
Alternate Route Planning	Bi-Annual	S	L	
Traveler Information Standards	Annual	S	L	
Other Traffic Management / Traveler Information Support	As Needed	S	L	
Special Events / Construction Committee (L = Lead S = Support)				
Special Events / Construction Information Dissemination	Weekly	L	S	
Maintain Special Event Transportation Standard Operating and Emergency Management Procedures Manual	Annual	L	S	
Parking Management	Quarterly	S	S	
Transit Issues	Monthly	S	S	
Meeting Coordination for Special Events and Construction Projects	As Needed	L	S	
Other Support	As Needed	S	L	

Table 6.1 (Continued)

Activity / Function	Frequency	Program Administrator	WisDOT	Notes
Outreach Committee (L = Lead S = Support)				
Update Outreach/ Communication Plan	Annual	S	L	
Statewide ITS Outreach Coordination	Quarterly	S	L	
Public Education/ Awareness/ Outreach <ul style="list-style-type: none"> • Fact Sheets • Folders • Brochures • Website • Video 	On-Going	S	S	
TIME Newsletter	Quarterly	S	L	- Distribute TIME Newsletter to the Steering Committee and FIMT on a quarterly basis - Conduct Newsletter Coordination Meetings on a monthly basis
Media Coordination	As Needed	S	L	
Tourism	As Needed	S	L	
Other Support as Required	As Needed	S	L	

6.3 Southeast Wisconsin Regional ITS Architecture Administration

The Southeast Wisconsin Regional ITS Architecture utilizes language as defined by the Federal Highway Administration (FHWA) interim National ITS Architecture requirements. As new versions of the FHWA National ITS Architecture are developed and new projects/systems are identified, the Southeast Wisconsin Regional ITS Architecture will need to be updated. Smaller scale updates to the Regional ITS Architecture may need to occur on a quarterly basis. A more comprehensive update will likely be conducted every two to three years. Refer to Chapter 4 for specific Regional ITS Architecture Administration requirements.

6.4 TIME Program Evaluation Administration

An important activity within the TIME Program will be to consistently (e.g. annually) assess and evaluate the Program's effectiveness. The purpose of the evaluation is to measure and document both quantitative and qualitative values of the Program elements Measures of Effectiveness (MOEs) such as efficiency, cost, public perception, and inter-jurisdiction cooperation/coordination. This requires the development of a structured evaluation plan to be prepared and carried out by an independent evaluator. The evaluator would work closely with the Freeway Incident Management Team (FIMT) Corridor Traffic Management Committee in identifying specific elements of the evaluation plan.

While the independent evaluator will be responsible for conducting the overall evaluation, the TIME Program administrator may provide support and guidance in areas such as:

- Schedule;
- MOE Development;
- Test Plan Preparation;
- Data Collection;
- Data Analysis; and,
- Reporting.

APPENDIX A

Database of TIME Steering Committee and Freeway Incident Management Team Members

Steering Committee

Name	Title	Agency	Address 1	Address 2	City	State	Zip	Telephone Number	Fax Number
Brian Ausloos	Sergeant	WI State Patrol District 3	P.O. Box 0984		Fond du Lac	WI	54936-0984	(920) 929-3700	(920) 929-7666
Leverett F. Baldwin	Sheriff	Milwaukee County Sheriff's Dept.	821 W. State Street		Milwaukee	WI	53233	(414) 278-4766	(414) 223-1386
Peter Beitzel	Vice President	METRO Milwaukee Assoc. of Commerce	756 N. Milwaukee St.		Milwaukee	WI	53202	(414) 287-4140	(414) 271-7753
Robert A. Bereiter	District Commander/Captain	WI State Patrol District 2	21115 Hwy. 18		Waukesha	WI	53186	(262) 785-4700	(262) 785-4723
John Berg	ITS SW Planning Engineer	Federal Highway Administration	567 D'Onofrio Drive	Highpoint Office Park	Madison	WI	53719	(608) 829-7503	(608) 829-7526
Arnold Berg	Town Supervisor	Town of Blooming Grove	1880 S. Stoughton Road		Madison	WI	53716	(608) 223-1104	
Richard J. Bjorklund	Executive Director	Wisconsin State Fair Park	8600 W. Greenfield Avenue		West Allis	WI	53214	(414) 266-7020	(414) 266-7007
Richard A. Bolte	Director of Transp.	Waukesha DOT	1320 Pewaukee Rd., Rm. 210		Waukesha	WI	53188	(262) 548-7740	(262) 896-8097
Stacey Black	Deputy Inspector	Milwaukee County Sheriff Dept.	633 W. Wisconsin Avenue	Suite 1200	Milwaukee	WI	53203	(414) 227-2140	(414) 227-2165
Jack Burbank	DEG SE Regional Dir.	WI State Patrol District 2	21115 Hwy. 18		Waukesha	WI	53186	(262) 782-1515	(262) 782-1605
Robert Coon	Chief	Menomonee Falls Police Dept.	W156 N8480 Pilgrim Road		Menomonee Falls	WI	53051	(262) 255-8347	(262) 255-3579
John M. Corbin, P.E.	Freeway Ops Engineer	WisDOT District 2	633 W. Wisconsin Avenue	Suite 1200	Milwaukee	WI	53203	(414) 227-2150	(414) 227-2165
Steven J. Cyra	Project Manager	HNTB Corporation	11270 West Park Place	One Plaza, Suite 500	Milwaukee	WI	53214	(414) 359-2300	(414) 359-2310
Philip H. DeCabooter	Chief ITS Engineer	WisDOT Planning/ITS PO Box 7913	4802 Sheboygan Avenue	Rm 933	Madison	WI	53707	(608) 267-0452	(608) 267-0294
Jeffrey H. Dillon, P.E.	Transp. Design Mgr.	City of Milwaukee DPW Infrastructure	841 N. Broadway	MUN Bldg, Rm 620	Milwaukee	WI	53202	(414) 286-2401	(414) 286-5994
Edward L. Dobernig	Battalion Chief	City of West Allis Fire Dept.	2040 S. 67th Place		West Allis	WI	53219	(262) 302-8900	(414) 302-8927
Robert Dreblow	Highway Commissioner	Ozaukee County	P.O. Box 994		Port Washington	WI	53075	(262) 238-8331	(262) 284-8343
David Eastman	Director of Public Works	City of Glendale DPW	5909 N. Milwaukee River Pkwy.		Glendale	WI	53209	(414) 228-1745	(414) 228-1725
John H. Evans	Transp. Safety Director	WisDOT	4802 Sheboygan Avenue	HFSTB, Rm 951	Madison	WI	53707	(608) 266-3048	(608) 267-0441
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Edward J. Friede, P.E.	District Chief Traffic Mgr.	WisDOT District 2	2000 Pewaukee Road	P.O. Box 798, Suite A	Waukesha	WI	53187	(262) 548-5678	(262) 548-8655
Lawrence A. Gardner	Chief	City of Milwaukee Fire Dept.	711 W. Wells Street		Milwaukee	WI	53233	(414) 286-8948	(414) 286-8996
David Graves	Sheriff	Walworth County Sheriff	W4054 County Hwy. NN		Elkhorn	WI	53121	(262) 741-4411	(262) 741-4645
Thomas M. Grisa, P.E.	Director of Public Works	Brookfield	2100 N. Calhoun Road		Brookfield	WI	53005	(262) 782-9650	(262) 782-1323
Carl Guse	Frequency Specialist	WI State Patrol	4802 Sheboygan Avenue	P.O. Box 7912	Madison	WI	53707	(608) 266-2497	(602) 267-4495
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Edward J. Hermann	Lieutenant	Ozaukee County Sheriff's Dept.	1201 S. Spring Street		Port Washington	WI	53074	(262) 238-8450	(262) 238-8490
Susan Hill	Transportation /Air Supervisor	Wisconsin DNR	P.O. Box 12436		Milwaukee	WI	53212	(414) 263-8659	(414) 263-8550
Arthur J. Jones	Chief	City of Milwaukee Police Dept.	749 W. State Street		Milwaukee	WI	53233	(414) 935-7200	(414) 935-7109
Gary Klugiewicz	Captain	Milwaukee Co. Sheriff Dept.	821 W. State Street	Room 304	Milwaukee	WI	53233	(414) 278-4738	(414) 223-1880
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Larry LaFavor	Lieutenant	Waukesha County	515 W. Moreland Boulevard		Waukesha	WI	53188	(262) 548-7123	(262) 548-7887
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Michael Lewis	City Engineer	City of West Allis	7525 W. Greenfield Avenue		West Allis	WI	53214	(414) 302-8372	(414) 302-8321
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Steven D. Loth	Engineer Administrator	City of Brookfield	2000 N. Calhoun Road		Brookfield	WI	53005	(414) 782-9650	(414) 796-6671
Connie Mallwitz	Lieutenant	Racine County Sheriff's Dept.	717 Wisconsin Avenue		Racine	WI	53403	(262) 636-3214	(262) 637-5279
Edward J. Marchewka	Dir. of Emergency Mgmt.	Milwaukee County	821 W. State Street	Rm 304	Milwaukee	WI	53233	(414) 278-4709	(414) 223-1265
William McReynolds	Sheriff	Racine County Sheriff's Dept.	717 Wisconsin Avenue		Racine	WI	53403	(262) 636-3203	(262) 637-5279

Name	Title	Agency	Address 1	Address 2	City	State	Zip	Telephone Number	Fax Number
Greg E. Naumann	Captain	City of Wauwatosa Police Dept.	P.O. Box 26426		Wauwatosa	WI	53226	(414) 471-8430	(414) 471-8447
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Mike L. O'Brien	P.I.O.	WisDOT District 2	2000 Pewaukee Road	P.O. Box 798, Suite A	Waukesha	WI	53187	(262) 521-5294	(262) 548-5662
Frederick J. Patrie	Director Of Public Works	Kenosha County DPW	P.O. Box 609		Bristol	WI	53104	(262) 857-1870	(262) 857-1885
Timothy Pelzek	Battalion Chief -	Milwaukee Fire Dept.	6680 N. Teutonia Avenue	Vehicle Operations	Milwaukee	WI	53209	(414) 286-5232	(414) 286-5270
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Dr. Ronald Pirrallo, MD	Associate Professor	Medical College of Wisconsin	9200 W. Wisconsin Avenue	FMLH East	Milwaukee	WI	53226	(414) 805-6451	(414) 805-6464
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Roland J. Poppy	Chief	City of Greenfield Fire Dept.	4333 S. 92nd Street		Greenfield	WI	53228	(262) 545-7946	(262) 545-8875
Gary Pucker	Sheriff	Fond du Lac County	87 Vincent Street		Fond du Lac	WI	54935	(920) 929-3372	(920) 929-3918
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Dean R. Redman	Chief	Wauwatosa Fire Dept.	1463 Underwood Avenue		Wauwatosa	WI	53213	(414) 471-8490	(414) 471-8473
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Freeway Incident Management Team

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Mr. Thomas Carr	Airborne Traffic Reporter	WTMJ Radio	720 E. Capitol Dr.	P.O. Box 444	Milwaukee	WI	53212-1371	(414) 967-5535	(414) 967-5298
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Mr. Charles D. Clark		Edwards & Kelcey, Inc.	Two Honey Creek Corporate Ctr., Ste. 305	115 S. 84 St.	Milwaukee	WI	53214	(414) 259-1340	(414) 259-1350
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Mr. Michael R. De Haan		WI Towing Association	562 Grand Canyon Dr.	P.O. Box 44849	Madison	WI	53744-4849	(608) 833-8200	(608) 833-2875
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Ms. Kathryn Gleesing, CMP	Director of Convention & Visitors Services	Greater Milwaukee CVB	510 W. Kilbourn Ave.	(414) 273-4248	Milwaukee	WI	53203	(414) 273-3950	
Capt. William Greer		Racine County Sheriff's Dept.	717 Wisconsin Ave.		Racine	WI	53403	(262) 636-3224	(262) 637-5279
E. Doyle Hanrahan		Hanrahan & Associates	2025 North Summit Ave		Milwaukee	WI	53202	(414) 283-9797	(414) 283-9799
Lt. Patti Hansen		WI State Patrol District 2	21115 Hwy 18		Waukesha	WI	53186-2985	(262) 785-4701	(262) 785-4723
Mr. Michael S. Hardy	Freeway Operations Engineer	WisDOT District 2 Freeway Ops	633 W. Wisconsin Ave.	Suite 1200	Milwaukee	WI	53203-1907	(414) 227-2141	(414) 227-2164
Ms. Amy Hauser		Edwards & Kelcey, Inc.	633 W. Wisconsin Ave.	Suite 1200	Milwaukee	WI	53203	(414) 225-2037	(414) 227-2164
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Lt. Edward J. Hermann		Ozaukee County Sheriff's Dept.	1201 S. Spring St.		Port Washington	WI	53074-0245	(262) 238-8450	(262) 238-8490
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Ms. Susan Hill	Transportation/Air Supvisor	Wisconsin DNR	P.O. Box 12436		Milwaukee	WI	53212	(414) 263-8659	(414) 263-8550
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Capt. Mark H. Jansen		Washington Co. Sheriff Dept.	500 N. Schmidt Rd.	PO Box 1986	West Bend	WI	53095-7986	(262) 335-4378	(262) 335-4391
Mr. Bruce Jensen	Emergency Rd. Svc Field Rep.	AAA Wisconsin	P.O. Box 529		Brookfield	WI	53008	(414) 604-1704	(414) 792-7349
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Name	Title	Agency	Address 1	Address2	City	State	Zip	Telephone Number	Fax Number
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Chief Glen Linzmeier		Town of Blooming Grove	1880 S. Stoughton Rd.		Madison	WI	53716	(608) 223-1104	
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Mr. Edward J. Marchewka	Director of Emergency Mgmt.	Milwaukee County	821 W. State St.	Rm 304	Milwaukee	WI	53233	(414) 278-4709	(414) 223-1265
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Mr. Michael H. Milbrath	EMS Supervisor	Milwaukee County EMS	802 N. 94th St.		Milwaukee	WI	53226	(414) 257-6663	(414) 257-7919
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Mr. Grant Schaal		Greg's Automotive Towing Service	4520 W. Burnham St.		West Milwaukee	WI	53219	(414) 384-2869	(414) 645-6795
Mr. Patrick A. Schachte	Supervisor	WisDOT DMV Field Services	1150 N. Alois St.		Milwaukee	WI	53208	(414) 266-1120	(414) 266-1082
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Mr. John Shaw		WisDOT	2000 Pewaukee Road	Room 804	Waukesha	WI	53188	(262) 548-5951	
Mr. Scott Silverson	Consultant	BRW, Inc.	633 W. Wisconsin Ave.	Suite 1200	Milwaukee	WI	53203	(414) 227-2159	(414) 227-2165
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Mr. Todd D. Szymkowski	Senior Engineer	TransCore	2505 N. 124th St.	Suite 100	Brookfield	WI	53005-4615	(414) 797-6577	(414) 797-6580
Bill Tackes	Ozaukee Co. Patrol Superintendent	Ozaukee County	410 So. Spring Street	PO Box 994	Port Washington	WI	53704-0994	(262) 284-8331	(262) 238-8343
Ms. Susan Webber	Transportation Analyst	MCTS	1942 N. 17th St.		Milwaukee	WI	53205	(414) 937-3215	(414) 344-2122
Mr. Ken Weber		Ken Weber Towing	520 Capitol Dr.		Pewaukee	WI	53072	(414) 691-0333	(414) 691-7472

Name	Title	Agency	Address 1	Address2	City	State	Zip	Telephone Number	Fax Number
Mr. Charles Weirauch, III	Director of Operations	Metro Networks, Inc.	633 W. Wisconsin Ave.	Suite 1910	Milwaukee	WI	53203	(414) 276-7100	(414) 276-7108
Ms. Cheryl Weiss		WisDOT District 2	633 W. Wisconsin Ave.	Suite 1200	Milwaukee	WI	53203-1907	(414) 227-2146	(414) 227-2164
Ms. Tabasha R. Wilks		HNTB Corporation	633 W. Wisconsin Ave.	Suite 1200	Milwaukee	WI	53203	(414) 227-2156	(414) 227-2165
Anna Wisner		WisDOT	4802 Sheboygan Ave.	HFSTB, Rm 451	Madison	WI	53707	(608) 266-1675	
Mr. Michael A. Zadel	Roadway Maintenance Manager	Illinois State Toll Highway Authority	2700 Ogden Ave.		Downers Grove	IL	60515	(630) 241-6800	(630) 241-6107
Mr. Rick J. Zygowicz	Transportation Engineer	TransCore	2505 N. 124th St.	Suite 100	Brookfield	WI	53005-4615	(262) 797-6577	(262) 797-6580

APPENDIX B

Draft WisDOT ITS Program Project Submittal Forms and Order of Magnitude Cost Estimates

DRAFT

E1(a)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TEA21 Earmark Administrative and Technical Support Services

PROJECT TRACKING ID:

T9903

STATE FISCAL YEAR(S):

1999, 2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR TEA21 Earmark Federal Project Agreement

DTID-ITS

FHWA-Madison

PROJECT DESCRIPTION:

- Contract for consultant services to support administration of TEA 21 MONITOR Earmark
- Coordinate MONITOR deployment activities with TIME and GCM programs
- Complete technical and administrative reporting on Earmark to DTID, FHWA, and others

EARMARKING CONSIDERATION:

This project will be funded through the MONITOR TEA21 Earmark

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 11/98

Consultant selection and scoping - 1/99

Execute consultant contract - 2/99

Issue notice to proceed - 2/99

PROJECT COSTS:

SFY99 - \$600,000

SFY02 - \$600,000

EVALUATION PROVISIONS:

This project will be evaluated by the MONITOR System Evaluation & Tech. Development Project
(This evaluation project is also part of the MONITOR TEA21 Earmark Project Agreement)

DRAFT

E1(b)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

District GCM Staffing and Administrative Support (1000-31-33)

PROJECT TRACKING ID:

T9904

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Gary-Chicago-Milwaukee ITS Priority Corridor and TIME Program Participants

PROJECT DESCRIPTION:

- Completing program evaluations, analysis, tracking and management assignments for the freeway operations and ITS programs at the district level
- Assisting in the administration of a regional transportation program through technical analysis and recommendations through independent studies and projects
- Completing project and program status evaluations and reports
- Organizing, conducting and documenting project development of technology deployment projects
- Supporting the district in development and administration of related consultant procurement and construction contracts

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

(to be determined)

PROJECT SCHEDULE OR MILESTONES:

Project start - 5/99

Project completion- 6/01

PROJECT COSTS:

SFY00 - \$200,000

SFY01 - \$200,000

EVALUATION PROVISIONS:

This initiative is intended to provide ITS program and technical support and administrative services. These efforts do not require an evaluation.

DRAFT

E1(c)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

District 2 GCM Program Support

PROJECT TRACKING ID:

T9905

STATE FISCAL YEAR(S):

2000, 2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Gary-Chicago-Milwaukee ITS Priority Corridor and TIME Program Participants

PROJECT DESCRIPTION:

- Completing program evaluations, analysis, tracking and management assignments for the freeway operations and GCM ITS programs
- Assisting in the administration of a regional transportation program through technical analysis and recommendations through independent studies and projects
- Completing project and program status evaluations and reports of GCM ITS Projects
- Supporting the development and administration of GCM-related consultant contracts

EARMARKING CONSIDERATION:

This project may be funded through the TEA-21 earmarks.

CONSULTANT SERVICES:

This project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Project start - 5/99

Project completion- 6/01

PROJECT COSTS:

SFY00 - \$300,000

SFY01 - \$300,000

EVALUATION PROVISIONS:

This initiative is intended to provide ITS program and technical support and administrative services. These efforts do not require an evaluation.

DRAFT

E1(d)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Regional Planning Commission ITS Planning Project

PROJECT TRACKING ID:

T0201

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

Integrated Corridor Operations Project (ICOP) Strategic Plan (pending)

MONITOR Deployment Plan

Communications & Data System Infrastructure Strategic Plan (pending)

PROJECT DESCRIPTION:

- Contract with Southeastern Wisconsin Regional Planning Commission to comprehensively the traffic management and ITS element of the Regional Transportation Plan
- Document & integrate planning activities of existing and emerging ITS-related programs in the region
- Refine the "vision" for ITS in the region
- Plan components may include:
 - Summary of existing conditions
 - User needs identification
 - ITS elements identification
 - Funding opportunities
 - Deployment plan and regional ITS architecture review

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will consist of public agency professional services.

PROJECT SCHEDULE OR MILESTONES:

Incorporate project into SEWRPC work plan - 12/99

Complete interagency contract development and project plan - 3/01

Complete study - 12/02

PROJECT COSTS:

SFY02 - \$500,000

EVALUATION PROVISIONS:

No evaluation of this project is necessary.

DRAFT

E1(e)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Transportation Operations Strategic Vision Development

PROJECT TRACKING ID:

T0106

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Identify current strategic direction of transportation planning, programming, design and construction in District Two.
- Survey of individuals within and outside of the department to collect opinions of the perceived optimal direction for multi-modal transportation operations initiatives in District 2 during next 20 years
- Develop a comprehensive vision statement for the transportation system in Southeastern Wisconsin.
- This vision statement will include discussion relating to the placement, design, operational and safety considerations of the entire transportation system.

EARMARKING CONSIDERATION:

Earmark funding may be considered for this project

CONSULTANT SERVICES:

This project will involve transportation planning services provided by a consultant

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 5/01

Identification of existing direction begin - 7/01

Survey of desired direction begin - 8/01

Development of vision statement - 12/01

PROJECT COSTS:

SFY01 - \$300,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E1 (f)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Resource Opportunity Research

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

This project consists of conducting sufficient research to determine additional resource and funding opportunities available within the participating agencies of the TIME Program. Possible agencies and associations to research include public safety, maintenance, etc.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$17,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E1.(f) Resource Opportunity Research

ANNUAL PROGRAM ADMINISTRATION:

Research and Documentation

$$= 1 \text{ man month } = \frac{\$17,000}{\$17,000}$$

DRAFT

E1(g)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 1999-2001
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Multi-Agency Collocation Project

PROJECT TRACKING ID:

T0101

STATE FISCAL YEAR(S):

2001, 2002, 2003, 2004, 2005, 2006

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Contracts for local agency staff support of MONITOR Traffic Operations Center
- Provides resources to local agencies to enable continued technical support involvement in TIME
- Expands upon successful local law enforcement collocation pilot project

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project may involve consultant services to assist local agencies in technical support of TIME

PROJECT SCHEDULE OR MILESTONES:

Local agency project agreements - 1/99

Execution of local agency contracts - 3/99

PROJECT COSTS:

SFY01 - \$400,000

SFY02 - \$400,000

SFY03 - \$400,000

SFY04 - \$400,000

SFY05 - \$400,000

SFY06 - \$400,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E1(h)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TIME Program Technical Support

PROJECT TRACKING ID:

T0103/T0301

STATE FISCAL YEAR(S):

2001, 2003, 2005

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Contract for consultant services to provide technical and administrative support to ongoing program
- Design small to medium interagency projects for technology deployment
- Complete studies and preliminary engineering for traffic incident management projects

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 12/01

Consultant selection and scoping - 2/02

Execute consultant contract - 5/02

Issue notice to proceed - 6/02

PROJECT COSTS:

SFY01 - \$600,000

SFY03 - \$600,000

SFY05 - \$600,000

(Propose full encumbrance in SFY00)

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E2

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Emergency Respondent Resource Lists

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Emergency Respondent Resource Lists specify who (personnel) and what (equipment) is available to assist with incident management for each particular freeway segment. This list is distributed to all responsible agencies and used by dispatchers to ensure the most efficient and effective resources are dispatched for incident management. This list must be comprehensive and updated frequently to ensure all information is accurate.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$34,000

Annual Program Administration - \$8,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E2. Emergency Respondent Resource Lists

IMPLEMENTATION:

Research and Documentation of Resources

= 2 man months = \$34,000

- Equipment
- Personnel

\$34,000

ANNUAL PROGRAM ADMINISTRATION:

Annual Upkeep and Maintenance

= ½ man month = \$ 8,500
\$ 8,500

DRAFT

E3

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2005 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Emergency and Maintenance Vehicle Warning Systems

PROJECT TRACKING ID:

T0001

STATE FISCAL YEAR(S):

2000

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete research to determine the state-of-the-art of vehicle hazard warning and lighting systems
- Procure and install modern and prototype vehicle hazard sensing and warning systems
- Procure and install modern vehicle warning light systems to enhance vehicle visibility on freeways
- Install hazard warning systems and warning light systems on:
 - Law enforcement vehicles
 - County highway maintenance vehicles
 - Fire and emergency medical system response vehicles
 - Other traffic incident response vehicles

 earmarking consideration:

This project may be funded through a federal earmark

consultant services:

This project does not involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Complete research and recommendations of hazard warning and vehicle lighting systems - 2/00

Identify agencies for participation in system installation and evaluation - 4/00

Complete procurement and installation of equipment - 6/00

PROJECT COSTS:

Implementation - SFY00 - \$200,000

Annual Operating and Maintenance by committed local agency resources

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E4(a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Freeway Safety Patrols

PROJECT TRACKING ID:

T9907

STATE FISCAL YEAR(S):

1999, 2003, 2004, 2005, 2006

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
GCM Program Plan

PROJECT DESCRIPTION:

- Contract for continuation of law enforcement courtesy patrols in Milwaukee County
- Contract for continuation of private tow truck Gateway Patrols in Racine & Kenosha Counties
- Expand Gateway-type motorist assistance along freeways in Waukesha, Washington, & Ozaukee
- Assist stranded motorists and those involved in crashes, relocate them to Crash Investigation Sites
- Assist law enforcement and emergency service personnel in responding to major incidents
- Assist law enforcement in managing incidents during periods of intense inclement weather

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Solicit bids for continuation of Gateway Patrols - 5/99

Execute agreements to continue & expand Milwaukee County Patrols - 5/99

Introduce Gateway-type service along US41-45 in Waukesha & Washington Counties - 3/00

Introduce Gateway-type service along I-94 in eastern Waukesha County - 3/00

Introduce Gateway-type service along I-43 in southern Ozaukee County - 3/01

PROJECT COSTS:

SFY99 - \$3,000,000

SFY03 - \$2,000,000

SFY04 - \$2,500,000

SFY05 - \$2,500,000

SFY06 - \$2,500,000

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EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E4(c)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Traffic Response Unit (Pilot: Racine / Kenosha Counties)

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

A *Traffic Response Unit* further supports law enforcement, tow agencies, maintenance departments, and other emergency service responders with traffic control during major/minor incidents, highway maintenance/construction, etc. The services provided by the Traffic Response Unit include: the ability to deploy traffic control quickly and provide a safe environment for law enforcement, tow agencies, maintenance departments, and other emergency service responders to work within. A Traffic Response Unit includes a team of public works/maintenance personnel as well as a law enforcement patrol support services. Typical equipment may include, but is not limited to:

Public Works/Maintenance

- Vehicle – Enclosed Step Van
- Push Bumper
- Arrow Board
- Portable Changeable Message Sign
- Collapsible Lane Closed Signs
- Traffic Cones
- Oil Dry
- Communication Equipment
- On-Call and Overtime Staffing

Law Enforcement Patrol

- Total Station
- Push Bumpers
- Arrow Sticks
- Flares
- Collapsible Lane Closed Signs
- Traffic Cones

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

DRAFT

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$307,017

Annual Operating and Maintenance – SFYxx - \$106,769

SFYxx - \$107,649

SFYxx - \$108,573

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E4.(c) Traffic Response Unit (Pilot: Racine / Kenosha Counties)

IMPLEMENTATION:

Equipment	= \$307,017
	<hr/> \$307,017*

ANNUAL OPERATING AND MAINTENANCE:

Year 1	= \$106,769
Year 2	= \$107,649
Year 3	= \$108,573
	<hr/> \$322,991*

* A detailed cost estimate follows.

Item	Quantity	Unit Price	Total
YEAR 1			
<i>Capital Costs</i>			
Racine County TRU Squad			
Total Station Equipment	1	\$ 35,000	\$ 35,000
SETINA PB 300 Push Bumpers	10	\$ 130	\$ 1,300
Federal Smart Vector Light Systems with Controls	4	\$ 1,170	\$ 4,680
Turbo Flare Electronic Flares with Charging Stick	4	\$ 300	\$ 1,200
Collapsible Lane Closed Signs	4	\$ 340	\$ 1,360
28-Inch Low Temperature Traffic Cones	16	\$ 26	\$ 416
Kenosha County TRU Squad			
Total Station Equipment	1	\$ 35,000	\$ 35,000
SETINA PB 300 Push Bumpers	9	\$ 130	\$ 1,170
Code 3 Arrow Stick Light	9	\$ 245	\$ 2,205
Code 3 Arrow Stick Switch	9	\$ 110	\$ 990
36-Inch Reflective Cones (box of 8)	9	\$ 180	\$ 1,620
Shipping and Handling - Push Bumpers	1	\$ 160	\$ 160
Shipping and Handling - Other Equipment	1	\$ 205	\$ 205
Racine County TRU Vehicle			
Vehicle - Enclosed Step Van	1	\$ 42,000	\$ 42,000
SETINA PB 300 Push Bumper	1	\$ 130	\$ 130
Arrow Board (Mounted on rear of vehicle)	1	\$ 5,000	\$ 5,000
Portable Changeable Message Sign	1	\$ 35,000	\$ 35,000
Collapsible Lane Closed Signs	8	\$ 340	\$ 2,720
Traffic Cones	125	\$ 30	\$ 3,750
Oil Dry	L.S.	\$ 300	\$ 300
Communication Equipment - Multi-Channel (min. 8) Radio, Cell Phone, Pager	1	\$ 3,000	\$ 3,000
Kenosha County TRU Vehicle			
Vehicle - Enclosed Step Van	1	\$ 42,000	\$ 42,000
Vehicle Storage Provisions	1	\$ 10,000	\$ 10,000
SETINA PB 300 Push Bumper	1	\$ 130	\$ 130
Arrow Board (Mounted on rear of vehicle)	1	\$ 5,000	\$ 5,000
Portable Changeable Message Sign	1	\$ 35,000	\$ 35,000
Collapsible Lane Closed Signs	8	\$ 340	\$ 2,720
Traffic Cones	125	\$ 30	\$ 3,750
Oil Dry	L.S.	\$ 300	\$ 300
Communication Equipment - Multi-Channel (min. 8) Radio, Cell Phone, Pager	1	\$ 3,000	\$ 3,000
SUBTOTAL			\$ 279,106
Contingency 10%			\$ 27,911
TOTAL CAPITAL COST			\$ 307,017

Item	Quantity	Unit Price	Total
<i>Operating and Maintenance Costs</i>			
<i>Staffing</i>			
On-Call Racine County (On-call costs are not necessary due to current contract arrangements)	1	\$ -	\$ -
On-Call Kenosha County (On-call costs are necessary due to current contract arrangements)	1	\$ 10,000	\$ 10,000
Overtime Racine County (Assume 100 hours overtime per year)	1	\$ 3,000	\$ 3,000
Overtime Kenosha County (Assume 100 hours overtime per year)	1	\$ 3,000	\$ 3,000
<i>Maintenance</i>			
Racine County TRU Vehicle	1	\$ 2,000	\$ 2,000
Kenosha County TRU Vehicle	1	\$ 2,000	\$ 2,000
Factory Repairs (5% of Equipment Costs)			\$ 15,351
Spare Parts (3% of Equipment Costs)			\$ 9,210
Rental Equipment	L.S.	\$ 2,500	\$ 2,500
Supplemental WisDOT Maintenance Budget	1	\$ 50,000	\$ 50,000
SUBTOTAL			\$ 97,061
Contingency 10%			\$ 9,708
TOTAL OPERATING AND MAINTENANCE COST			\$ 106,769

TOTAL YEAR 1 (CAPITOL AND OPERATING AND MAINTENANCE COSTS)	\$ 413,786
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Item	Quantity	Unit Price	Total
YEAR 2			
<i>Operating and Maintenance Costs</i>			
<i>Staffing</i>			
On-Call Racine County (On-call costs are not necessary due to current contract arrangements)	1	\$ -	\$ -
On-Call Kenosha County (On-call costs are necessary due to current contract arrangements)	1	\$ 10,500	\$ 10,500
Overtime Racine County (Assume 100 hours overtime per year)	1	\$ 3,150	\$ 3,150
Overtime Kenosha County (Assume 100 hours overtime per year)	1	\$ 3,150	\$ 3,150
<i>Maintenance</i>			
Racine County TRU Vehicle	1	\$ 2,000	\$ 2,000
Kenosha County TRU Vehicle	1	\$ 2,000	\$ 2,000
Factory Repairs (5% of Equipment Costs)			\$ 15,351
Spare Parts (3% of Equipment Costs)			\$ 9,210
Rental Equipment	L.S.	\$ 2,500	\$ 2,500
Supplemental WisDOT Maintenance Budget	1	\$ 50,000	\$ 50,000
SUBTOTAL			\$ 97,861
Contingency 10%			\$ 9,788
TOTAL YEAR 2 (OPERATING AND MAINTENANCE COST)			\$ 107,649

Item	Quantity	Unit Price	Total
YEAR 3			
<i>Operating and Maintenance Costs</i>			
Staffing			
On-Call Racine County (On-call costs are not necessary due to current contract arrangements)	1	\$ -	\$ -
On-Call Kenosha County (On-call costs are necessary due to current contract arrangements)	1	\$ 11,025	\$ 11,025
Overtime Racine County (Assume 100 hours overtime per year)	1	\$ 3,308	\$ 3,308
Overtime Kenosha County (Assume 100 hours overtime per year)	1	\$ 3,308	\$ 3,308
Maintenance			
Racine County TRU Vehicle	1	\$ 2,000	\$ 2,000
Kenosha County TRU Vehicle	1	\$ 2,000	\$ 2,000
Factory Repairs (5% of Equipment Costs)			\$ 15,350.83
Spare Parts (3% of Equipment Costs)			\$ 9,210.50
Rental Equipment	L.S.	\$ 2,500	\$ 2,500
Supplemental WisDOT Maintenance Budget	1	\$ 50,000	\$ 50,000
SUBTOTAL			\$ 98,701
Contingency 10%			\$ 9,872
TOTAL YEAR 3 (OPERATING AND MAINTENANCE COST)			\$ 108,573

Note: Assume annual staff increases of 5% per year

DRAFT

E4(d)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Remote Incident Traffic Control

PROJECT TRACKING ID:

T0110

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Procure traffic control devices such as barricades, cones, static signs, illuminated directional signs, flares, HAZMAT containment devices/materials
- Procure trailers to be utilized for transport of the control devices to incident scenes

earmarking consideration:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Bid devices and trailer - 8/00

Procure devices and trailers - 10/00

PROJECT COSTS:

Implementation - SFY01 - \$500,000

Annual Operating and Maintenance - \$30,000

EVALUATION PROVISIONS:

This project will be evaluated as part of Incident Management Evaluation Program

DRAFT

E5 (a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

HAZMAT Program

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

A *HAZMAT Program* may include one or both of the following components:

- a. *HAZMAT Clearance Enhancement Program*
 - Improve HAZMAT Cargo Identification
 - Designate and Enforce Specific HAZMAT Routes
 - Legislation
 - Streamline Environmental Regulations
 - Measures to Expedite the Overall HAZMAT Clearance Process
- b. *Training/Improved Awareness for HAZMAT* may include elements such as the incorporation of HAZMAT training in law enforcement certification, annual workshops, and better awareness of HAZMAT movement on the freeway system.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$102,000

Annual Program Administration - \$38,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E5.(a-b) HAZMAT Program

IMPLEMENTATION:

Program Development and Documentation	= 6 man months	= \$102,000
		<u>\$102,000</u>

ANNUAL PROGRAM ADMINISTRATION:

Workshops*		= \$ 30,000
- Site Fee		
- Speaker/Expert Travel Expenses		
- Refreshments / Lunch		
- Preparation		

Annual Upkeep and Maintenance	= ½ man month	= \$ 8,500
		<u>\$ 38,500</u>

* Assumes two one-day workshops each year.

DRAFT

E6

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Inter-Jurisdictional Mutual Aid Agreements

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Inter-Jurisdictional Mutual Aid Agreements are formal documents allowing agencies from multiple jurisdictions to respond to emergencies including freeway incidents. This project may also include the mapping of the “closest” incident response resources to ensure the most efficient and effective resources are dispatched for incident management.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$20,000

Annual Program Administration - \$8,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E6. Inter-Jurisdictional Mutual Aid Agreements

IMPLEMENTATION:

Develop Inter-Jurisdictional Mutual Aid Agreements = 1 man month = \$17,000

- Identify Needs and Opportunities
- Meetings

Legal Assistance = \$ 3,000
\$20,000

ANNUAL PROGRAM ADMINISTRATION:

Annual Agreement Renewal Activities = ½ man month = \$ 8,500
\$ 8,500

DRAFT

E7 (a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Traffic Incident Management Policies

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

The development of *Traffic Incident Management Policies* includes:

- Research of similar policies/standards/guidelines in other areas of the country;
- Documentation; and,
- Implementation

It is assumed that approximately 1-2 traffic incident management policies will be developed each year.

Examples of Traffic Incident Management Policies include:

- a. *Incident Command System Policy* – Development of a policy to enhance incident command system efficiency.
- b. *Emergency Flashing Lights Policy* – Development of standards/guidelines to reduce emergency vehicle response lighting at incident sites.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$34,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E7.(a-b) Traffic Incident Management Policies

ANNUAL PROGRAM ADMINISTRATION:

Research and Documentation*	= 2 man months	= \$34,000
		<u>\$34,000</u>

* Assumes the development of 1-2 traffic incident management policies each year.

DRAFT

E8 (a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Operational Policies for CVOs

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Heavy Vehicle Clearance Recommendations* – Heavy Vehicle Clearance Recommendations may include the development of heavy vehicle clearance guidelines and/or the procurement of specialized heavy vehicle clearance equipment such as air cushion recovery systems, etc.
- b. *Legislation to Reduce Trucking Related Incidents* – Development of trucking legislation (guidelines) that restricts lane use, speed, and weight of commercial vehicles.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$151,000

Annual Operating and Maintenance - \$5,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E8.(a-b) Operational Policies for CVOs

IMPLEMENTATION:

Development and Documentation of Guidelines = 2 man months = \$ 34,000

Development of Legislation = 1 man month = \$ 17,000

Pilot Test Equipment = \$100,000
\$151,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance (5% of Equipment Cost) = \$ 5,000
\$ 5,000

DRAFT

E9 (a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Traffic Incident Management Demonstrations / Training Exercises

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Traffic Incident Management Demonstrations / Training Exercises are On-Going Joint Agency Exercises that focus on the implementation of communication strategies between agencies. Demonstrations may include presentations on heavy vehicle clearance, vehicle extrication, etc. Training exercises may include tabletop exercises on freeway emergencies such as winter weather and major incidents. It is assumed that approximately 1-2 traffic incident management demonstrations / training exercises will be conducted each year.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$30,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E9.(a) Traffic Incident Management Demonstration / Training Exercises

ANNUAL PROGRAM ADMINISTRATION:

Demonstrations / Training Exercises* = \$30,000

- Site Fee
- Speaker/Expert Travel Expenses
- Preparation

\$30,000

* Assumes 1-2 traffic incident management demonstrations / training exercises each year.

DRAFT

E10(a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Comprehensive Dispatcher Training

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Comprehensive Dispatcher Training may entail traffic incident management education at regular intervals (bi-annually) to discuss new/updated programs and procedures. The following is a list of potential traffic incident management education/training topics that have been identified:

- a. *Dispatcher Enhanced Reference Sign Education* is an effort to educate 911 dispatchers about the appropriate use of Enhanced Reference Signs and the importance of asking motorists, who are reporting incidents (e.g. stalled vehicles, accidents, etc.), to notice the reference signs and use them to describe the location of the incident.
- b. Once *Evacuation and Alternate Route Plans* are developed, dispatchers need to be trained in their use.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$30,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E10.(a-b) Comprehensive Dispatcher Training

ANNUAL PROGRAM ADMINISTRATION:

Training*	= \$30,000
- Site Fee	
- Preparation	
	<hr/>
	\$30,000

* Assumes 2 half-day dispatcher training sessions each year.

DRAFT

E11

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Freeway Law Enforcement Patrol

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

A *Freeway Law Enforcement Patrol* is a sheriff department staffed patrol dedicated to the enforcement and prevention of drunk driving, road rage, crash, and excessive speed violations on the freeway system.

The initial project tasks include:

- Evaluation/research of similar programs in other areas of the country and
- Development of a project proposal.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx- \$42,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E11. Freeway Enforcement Patrol

IMPLEMENTATION:

Research = ½ man month = \$ 8,500

Develop / Document Project Proposal = 2 man months = \$34,000
\$42,500

DRAFT

E12

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Incident Management Equipment Alternate Storage Sites

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Storing equipment required for incident response near high incident locations instead of one central location could reduce the time needed to respond to and clear an incident. Equipment that is typically located at *Incident Management Equipment Alternate Storage Sites* include:

- Portable Changeable Message Signs;
- Portable Traffic Signals;
- Portable Traveler Advisory Radio Units; and
- Other Traffic Control Equipment (e.g. traffic cones, collapsible lane closed signs, etc.)

This project entails the design and implementation of five storage facilities as well as the procurement of the necessary equipment for incident response.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFYxx- \$791,350

Annual Operating and Maintenance - \$33,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E12. Incident Management Equipment Alternate Storage Sites

IMPLEMENTATION:

Identify Storage Site Design	= 1 man month = \$ 17,000
Policy Development	= 1 man month = \$ 17,000
Property Acquisition	= \$100,000
Storage Facilities (5)	= \$150,000
Equipment	
- Portable Changeable Message Signs (5)	= \$175,000
- Portable Traffic Signals (10)	= \$150,000
- Portable Traveler Advisory Radio (5)	= \$150,000
- Cones	= \$ 18,750
- Collapsible Lane Closed Signs (40)	<u>= \$ 13,600</u>
	\$791,350

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	<u>= \$ 33,000</u>
(~5% of Equipment and Storage Facilities Cost)	\$ 33,000

DRAFT

E13

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Portable Changeable Message Signs

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Portable Changeable Message Signs are similar to permanent Variable Message Signs (VMS), but are smaller in size and mobile (portable). They include a power supply and are typically mounted on trailers or in the bed of a pick-up truck. These signs can also be made semi-permanent by installing concrete "pads" along the roadway with provisions for power and communications. Messages can be programmed in the field or from a control center via radio transmission or cellular telephone. As a result, displayed messages are easily updated as traffic conditions change. Portable Changeable Message Signs have proven to be effective for providing traveler information in incident or construction zones as well as at special events where other forms of alerting motorists to dangerous or congested traffic conditions are not available.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx- \$209,000

Annual Operating and Maintenance - \$8,750

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E13. Portable Changeable Message Signs

IMPLEMENTATION:

Policy Development = 1 man month = \$ 17,000

Equipment Procurement and Location Identification = 1 man month = \$ 17,000

Equipment
- Portable Changeable Message Signs (5) = \$175,000
\$209,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance = \$ 8,750
(5% of Equipment Cost) \$ 8,750

DRAFT

E14(a)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 1999-2000 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Inter-CAD, Phase 2B

PROJECT TRACKING ID:

T9908

STATE FISCAL YEAR(S):

1999

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Project would complete phased deployment of a data and information sharing network for public safety (Emergency Management Systems) and transportation (Transportation Management Systems) dispatch and communication center facilities in SE Wisconsin
- Project would speed flow of information between agencies responding to major and minor traffic incidents to ensure the safety of responding personnel and to reduce incident duration
- Phase 2B would consist of the procurement, installation, and integration of the final elements of a Milwaukee County Sheriff Department (MCSD) base CAD system, the design of a data sharing link (data processing and communications specifications) to share information between the MCSD base CAD system and the MONITOR Freeway Traffic Management System, and the design of similar data sharing links to provide capabilities for interface with other regional public safety agencies

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project may involve consultant services to assist local agencies.

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFY99 - \$500,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2000-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Inter-CAD, Phase 2C

PROJECT TRACKING ID:

T0003

STATE FISCAL YEAR(S):

2000

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Project would complete phased deployment of a data and information sharing network for public safety (Emergency Management Systems) and transportation (Transportation Management Systems) dispatch and communication center facilities in SE Wisconsin
- Project would speed flow of information between agencies responding to major and minor traffic incidents to ensure the safety of responding personnel and to reduce incident duration
- Phase 2C would consist of design to address equipment procurement, software development and integration, deploy voice communications interagency interfaces with TIME public safety agencies throughout SE Wisconsin, and design a data sharing network for SE Wisconsin transportation management agencies consistent with regional ITS architecture

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project may involve consultant services to assist local agencies.

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFY00 - \$500,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(c)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Inter-CAD, Phase 3, 4

PROJECT TRACKING ID:

T0109

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Project would complete phased deployment of a data and information sharing network for public safety (Emergency Management Systems) and transportation (Transportation Management Systems) dispatch and communication center facilities in SE Wisconsin
- Project would speed flow of information between agencies responding to major and minor traffic incidents to ensure the safety of responding personnel and to reduce incident duration
- Phase 3 would integrate a Milwaukee County CAD mapping layer or capability
- Phase 4 would integrate a Milwaukee County Automated Vehicle Location capability for Milwaukee County Sheriff.

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project may involve consultant services to assist local agencies.

PROJECT SCHEDULE OR MILESTONES:

Consultant contract for InterCAD Network design - 12/99

Complete system design and architecture - 4/00

Agency contract for implementation of Phases 3 & 4 - 5/00

Complete detailed Phased design for full project - 12/00

PROJECT COSTS:

Design and Implementation - SFY00 - \$1,000,000

Annual Operating and Maintenance - \$80,000

Annual Operations and Maintenance by D2 SFY 00-01 Tier 1 Projects and committed local agency resources

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(d)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Inter-CAD – Phase 5 and 6 Design

PROJECT TRACKING ID:

T0202

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit, Milwaukee County Sheriff Department

PROJECT PARTICIPANTS OR ORIGIN:

Wisconsin State Patrol, Milwaukee County Department of Public Works

PROJECT DESCRIPTION:

- Expand and adapt 800 MHz trunked radio and MDN systems and interfaces
- Procure and install EMS & Highway Department MDTs & GPS AVL units
- Procure and install EMS & Highway Department CAD workstations
- Incorporate transit data sharing
- Design regional Inter-CAD network
- Procure and install CAD enhancements for a Milwaukee County Transportation and Public Safety Records Management System
- Procure, install and integrate communications, data processing, and other equipment to implement the regional InterCAD network
- Integrate Inter-CAD with the SE Wisconsin Transportation Information HUB

earmarking consideration:

This project may be funded through a federal earmark.

consultant services:

This project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Consultant contract for design of regional InterCAD network – 9/00

Complete system design and architecture - 2/01

Complete equipment procurement – 12/01

Complete integration of systems – 12/02

PROJECT COSTS:

Design - SFY01 - \$800,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(e)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Inter-CAD – Phase 5 and 6 Deployment

PROJECT TRACKING ID:

T0302

STATE FISCAL YEAR(S):

2003

SPONSOR:

DTD, District Two, Freeway Operations Unit, Milwaukee County Sheriff Department

PROJECT PARTICIPANTS OR ORIGIN:

Wisconsin State Patrol, Milwaukee County Department of Public Works

PROJECT DESCRIPTION:

- Expand and adapt 800 MHz trunked radio and MDN systems and interfaces
- Procure and install EMS & Highway Department MDTs & GPS AVL units
- Procure and install EMS & Highway Department CAD workstations
- Incorporate transit data sharing
- Procure and install CAD enhancements for a Milwaukee County Transportation and Public Safety Records Management System
- Procure, install and integrate communications, data processing, and other equipment to implement the regional Inter-CAD network
- Integrate Inter-CAD with the SE Wisconsin Transportation Information HUB

earmarking consideration:

This project may be funded through a federal earmark.

consultant services:

This project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Consultant contract for design of regional Inter-CAD network – 9/00

Complete system design and architecture - 2/01

Complete equipment procurement – 12/01

Complete integration of systems – 12/02

PROJECT COSTS:

Implementation - SFY03 - \$2,500,000

Annual Operating and Maintenance - \$90,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(f)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Emergency Service Video and Data Sharing - Pilot

PROJECT TRACKING ID:

T0004

STATE FISCAL YEAR(S):

2000

SPONSOR:

DTD, District Two, Freeway Operations Unit, Milwaukee County Sheriff Department

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

The *TESCNET Emergency Service Video and Data Sharing Pilot* is expected to enhance incident management and video surveillance in Southeastern Wisconsin by providing evaluation/testing of existing video equipment, providing for the procurement of additional video transmitting and receiving devices and the procurement of enhanced aerial surveillance and remote video access equipment for the WisDOT and local agencies including the Milwaukee Fire Department, Milwaukee County Sheriff Department, etc.

This project may also address the development of internet based traffic video sharing. Internet based video sharing will allow local agencies not already receiving direct video transmissions from the WisDOT Traffic Operations Center to access a website and acquire live "streaming" video images of freeway and arterial traffic from WisDOT surveillance cameras. This would provide quick and simple access for communities that are not yet directly linked to the WisDOT Traffic Operations Center.

Another element of this project may involve the procurement of additional traffic surveillance devices for the Milwaukee County Sheriff Department helicopter. This surveillance equipment will consist of an additional antenna placed on the helicopter and three mobile receiving stations to view the transmitted video.

The final element of this project may be the procurement of various video transmitting and receiving equipment to enable enhanced video quality distribution and reliability for the continued surveillance of the area freeways.

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will not involve consultant services

DRAFT

PROJECT SCHEDULE OR MILESTONES:

Notification of interest – 9/99

Request for proposals – 5/00

Interviews – 6/00

Selection – 6/00

Negotiations and Scoping – 7/00

Work Order Submittal – 7/00

Contract Submittal – 8/00

Project Completion – 5/01

PROJECT COSTS:

Implementation - SFY00 - \$235,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(g)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Backbone Fixed Plant Design and Procurement

PROJECT TRACKING ID:

T0005, T0203

STATE FISCAL YEAR(S):

2000, 2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Communications & Data System Infrastructure Strategic Plan (pending)

PROJECT DESCRIPTION:

- Design freeway-based communications network for transportation mgmt. & emergency services
- Support exchange of voice, video and data between emergency service and transportation mgmt.
- Complete procurement and construction phases of the communications network deployment
- Complete and modify existing MONITOR communications network
- Provide system integration services for connection & testing of comm. media and end-equipment
- Implement a portion of the Communications & Data Systems Infrastructure Strategic Plan

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

The design component of this project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

- Complete CDSI Strategic Plan - 3/99
- Complete memoranda of understanding with target entities - 11/99
- Complete design of emergency services communications network - 3/00
- Complete procurement and installation of equipment - 12/00

PROJECT COSTS:

Design - SFY00 - \$800,000

Implementation - SFY 01-\$1,500,000

Annual Operations and Maintenance by D2 SFY00-01 Tier 1 projects & committed local agency resources

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(h)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TESCNET Backbone Wireless

PROJECT TRACKING ID:

T0303

STATE FISCAL YEAR(S):

2001

SPONSOR:

TIME Enhanced Freeway Patrol Task Force

PROJECT PARTICIPANTS OR ORIGIN:

Milwaukee County Sheriff, DPW, TIME Emergency Service Providers, Tow Operators

PROJECT DESCRIPTION:

This project would supplement the TESCNET Inter-CAD project and provide increased system functionality by designing and implementing voice radio system equipment to enable direct voice communication between traffic incident responders.

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark.

CONSULTANT SERVICES:

This project may involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Begin design - 8/99

Complete design – 8/00

Procure equipment – 11/00

Implement and test – 2/01

PROJECT COSTS:

Design and Implementation - SFY01 - \$2,000,000

Annual Operating and Maintenance - \$80,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E14(i)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

AVL (Emergency/Maintenance/Transit Vehicles)

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

AVL or Automatic Vehicle Location is a technology typically used for tracking the location of public safety/law enforcement, maintenance and transit units in real time. This technology will reduce response times by allowing dispatchers to deploy the unit closest to the incident scene. The systems would include the in-vehicle equipment, the communication infrastructure to the appropriate agencies, and the technology required for the agency to interpret the information received from the vehicle.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$251,000

Annual Operating and Maintenance - \$20,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E14.(i) AVL (Emergency/Maintenance/Transit Vehicles)

IMPLEMENTATION:

Design = 3 man months = \$ 51,000

Equipment	
- Initial Pilot Test	<u>= \$200,000</u>
	\$251,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	<u>= \$ 20,000</u>
(10% of Equipment Cost)	\$ 20,000

DRAFT

E14(j)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

LIFELINK Design and Deployment

PROJECT TRACKING ID:

T0002, T0108

STATE FISCAL YEAR(S):

2000, 2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Project would replicate technology that has been deployed in San Antonio to relay patient data and live video bi-directionally between mobile paramedic ambulance and a trauma center.
- Phase A of the project would consist of:
 - Conceptual design and preliminary engineering that incorporates ITS project architecture
 - Complete plans and specifications for procurement of project components
 - Install equipment and complete full system integration and testing prior to conducting an operational test to be evaluated by UW-Madison, UWM, Marquette, and Medical College of WI
- Phase B of the project would expand coverage throughout Milwaukee County
- Phase C of the project would expand functional capabilities
- Phase D of the project would expand to rural settings to incrementally accommodate statewide deployment

EARMARKING CONSIDERATION:

Earmark funding may be considered for this project.

CONSULTANT SERVICES:

This project may involve consultant services to assist local agencies.

PROJECT SCHEDULE OR MILESTONES:

Complete conceptual design (current CDSI contract) - 9/99

Complete system design, architecture, and equipment procurement specifications - 5/00

Let construction contracts - 8/00

Execute local agency contracts for procurement - 8/00

Start operational test - 1/01

PROJECT COSTS:

Design - SFY00 - \$500,000

Implementation - SFY01 - \$1,400,000

Annual Operating and Maintenance - \$90,000

Annual Operations and Maintenance by D2 SFY 00-01 Tier 1 Projects & committed local agency resources

DRAFT

EVALUATION PROVISIONS:

Project will be evaluated by the Wisconsin ITS Evaluation and Technology Development Alliance (UW-Madison, UWM, Marquette, Medical College of Wisconsin)

DRAFT

E15(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

911 Enhancements

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Emergency Telephone Call-In 911 Enhancements would predominantly be implemented by telephone companies and/or cellular telephone providers and may potentially include items such as one-touch termination or transfer to minimize call loads for dispatch personnel. These technological advancements will allow 911 dispatchers to more efficiently handle incoming telephone calls.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Costs will be assumed by telephone companies/cellular providers

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E15.(a) 911 Enhancements

IMPLEMENTATION:

Costs will be assumed by telephone companies and cellular telephone providers.

DRAFT

E16(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

"Total Station" Survey System and Laser Measuring Devices for Crash Investigation

PROJECT TRACKING ID:

T0112

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Review and select crash measurement equipment for procurement and testing
- Procure total station survey equipment and laser radar distance measurement equipment
- Coordinate testing and evaluation of equipment by law enforcement

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Review, select and specify measurement equipment (TIME Program Support) - 12/98

Complete project plans and agreements with state and local law enforcement - 3/01

Complete procurement - 6/01

Begin testing and evaluation of Crash Measurement Equipment Project - 1/02

PROJECT COSTS:

Implementation - SFY01 - \$200,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

E16(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Aerial Photography

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Aerial Photography involves the utilization of helicopter or airplane video cameras to record vital incident scene data. This project will include the procurement of video and communication equipment necessary to record incident scene data and operator training.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$300,000

Annual Operating and Maintenance - \$30,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E16.(b) Aerial Photography

IMPLEMENTATION:

Program Set-Up and Training	= \$100,000
-----------------------------	-------------

Equipment	<u>= \$200,000</u>
	\$300,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	<u>= \$ 30,000</u>
(10% of Training and Equipment Cost)	\$ 30,000

DRAFT

E17(a)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Voice Communications Enhancements

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Voice Communications Enhancements may include technical and/or policy advancements that improve the communication abilities between responding agencies at an incident scene. *FIRECOM* is one example of a voice communication enhancement that provides the ability for Sheriff and Fire Departments to talk via radio at an incident scene through a special dispatcher patch.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$502,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E17.(a) Voice Communication Enhancements

IMPLEMENTATION:

Needs Assessment = 6 man months = \$102,000

Equipment Enhancements	<u>= \$400,000</u>
	\$502,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	<u>= \$ 50,000</u>
	\$ 50,000

DRAFT

E18(a-b)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Freeway Fire Hydrants

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Fire Hydrant Location Identification* markers or signs along the freeway right of way indicate the presence of a nearby fire hydrant. These signs reduce the time necessary to locate the nearest fire hydrant, particularly in areas provided with sound barriers and during large accumulations of snow cover. These markers or signs enable fire departments to reduce incident time involving fires.
- b. *Additional Freeway Fire Hydrants* are needed in freeway interchange locations and within the right of way at high incident locations to reduce fire related incident times.

The initial study may include the following or similar project tasks:

- Inventory Existing Fire Hydrants that are in Proximity to the Freeway
- Determine Need for Additional Locations for Fire Hydrants in System Interchanges and High Incident Locations
- Prepare Fire Hydrant Signing Alternatives
- Fire Hydrant and Signing Deployment
- Fire Hydrant and Signing (Procurement / PS&E)

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$93,000
Annual Operating and Maintenance - \$2,100
- b. Design and Implementation - SFYxx - \$960,000
Annual Operating and Maintenance - \$30,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E18.(a-b) Freeway Fire Hydrants

IMPLEMENTATION:

- a. Fire Hydrant Location Identification
- | | |
|------------------------------|----------------------------|
| Inventory | = 3 man months = \$ 51,000 |
| - Field Work | |
| - Documentation | |
|
Markers (700) |
= \$ 21,000 |
| - Supply | |
| - Install | |
|
Fire Hydrant Plate Signs |
= \$ 21,000 |
| - Supply | <u>\$ 93,000</u> |
| - Install | |
- b. Additional Freeway Fire Hydrants
- | | |
|--|------------------------|
| Design and PS&E | = \$360,000 |
|
Fire Hydrant Installation |
<u>= \$600,000</u> |
| - Potential Location at each major interchange | <u>\$960,000</u> |
| • North | |
| • Zoo | |
| • Mitchell | |
| • Marquette | |
| • Hale | |
| • Stadium | |

ANNUAL OPERATING AND MAINTENANCE:

- a. Fire Hydrant Location Identification
- | | |
|----------------------------------|-------------------|
| Annual Operating and Maintenance | <u>= \$ 2,100</u> |
| (5% of Equipment Cost) | \$ 2,100 |
- b. Additional Freeway Fire Hydrants
- | | |
|--|--------------------|
| Annual Operating and Maintenance | <u>= \$ 30,000</u> |
| (5% of Fire Hydrant Installation Cost) | \$ 30,000 |

DRAFT

E19(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Highway Watch

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

The *Highway Watch* is a strategy to enlist and train commercial truck drivers to report freeway incidents such as crashes, vehicle breakdowns, and adverse weather conditions via cellular telephone. A special telephone number to reach 911 may be issued to designate the priority of a trained incident reporter.

A *Permanent Highway Watch Program* improves incident detection and verification time and can improve response time by providing detailed and accurate incident information to 911 dispatch.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$51,000

Annual Program Administration - \$25,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E19.(a) Highway Watch

IMPLEMENTATION:

Program Development Study = 2 man months = \$ 34,000

Training = 1 man month = \$ 17,000
\$ 51,000

ANNUAL OPERATING AND MAINTENANCE:

Program Maintenance = ½ man month = \$ 8,500

Training / Evaluation = 1 man month = \$ 17,000
\$ 25,500

DRAFT

E20(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

MONITOR Closed Circuit Television (CCTV) Video Sharing – Emergency Responders

PROJECT TRACKING ID:

T0107

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Communications & Data System Infrastructure Strategic Plan (pending)

PROJECT DESCRIPTION:

- Install communications and control equipment to share freeway video with emergency services
- Integrate systems at MONITOR Traffic Operations Center and emergency dispatch centers
- Target video sharing with:
 - Wisconsin State Patrol - District Two
 - Racine, Kenosha, and Waukesha County Sheriffs
 - Racine, Kenosha, and Waukesha County Highway Departments
 - Primary Towing Contractors
 - Milwaukee, Wauwatosa, West Allis, Brookfield, North Shore, Greenfield, Oak Creek Fire Depts.
 - Milwaukee, Wauwatosa, West Allis, Brookfield, Bayside, Greenfield, Oak Creek Police
- Expands GCM Emergency Service Video & Data Sharing Project (1000-31-38)

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project may include some consultant services for system integration services

PROJECT SCHEDULE OR MILESTONES:

Complete CDSI Strategic Plan - 3/99

Complete memoranda of understanding with target entities - 5/99

Complete procurement and installation of equipment - 11/00

PROJECT COSTS:

Design and Implementation - SFY01 - \$500,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the TIME Program Evaluation Project

DRAFT

E20(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

MONITOR Closed Circuit Television (CCTV) Video Sharing – Maintenance Departments

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Communications & Data System Infrastructure Strategic Plan (pending)

PROJECT DESCRIPTION:

- Install communications and control equipment to share freeway video with maintenance departments
- Integrate systems at MONITOR Traffic Operations Center and maintenance department dispatch centers
- Target video sharing with:
 - County Public Works Departments
 - County Highway/Maintenance Departments
- Expands GCM Emergency Service Video & Data Sharing Project (1000-31-38)

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may include some consultant services for system integration services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFY0X - \$500,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E20.(b) MONITOR Closed Circuit Television (CCTV) Video Sharing – Maintenance Departments

IMPLEMENTATION:

Design and Implementation	= \$500,000
	<u>\$500,000</u>

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	= \$ 50,000
(10% of Design and Implementation Cost)	<u>\$ 50,000</u>

DRAFT

E20(c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Aerial Surveillance Expansion

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Procurement of equipment to be used by Sheriff Departments for *Aerial Surveillance* during traffic incidents.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project may include some consultant services for system integration services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$501,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

E20.(c) Aerial Surveillance Expansion

IMPLEMENTATION:

Design = 3 man months = \$ 51,000

Equipment	= \$450,000
	<u>\$501,000</u>

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	= \$ 50,000
	<u>\$ 50,000</u>

DRAFT

C1

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Regional ITS Architecture Administration

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

A *Regional ITS Architecture Administration* will include support necessary to update the regional ITS Architecture on an annual basis as new transportation and public safety projects are implemented.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$100,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C1. Regional ITS Architecture Administration

ANNUAL PROGRAM ADMINISTRATION:

Annual Program Administration

= \$100,000
\$100,000

DRAFT

C2

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Alternate Route Planning and Traffic Control Plans

PROJECT TRACKING ID:

T0117

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Review and update Integrated Corridor Operations Project routes with public safety agencies
- Identify alternate surface street routes typically used for traffic diversion during freeway incidents
- Identify additional alternate surface street routes that may be used for freeway traffic diversion
- Update and supplement available inventories of traffic patterns and traffic control along these routes
- Develop detailed maps, traffic control plans, and traveler information schemes for these routes
- Identify and implement alternate route plan administration processes and mechanisms
- Produce office and field reference material to guide setup and operation of alternate routes

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 4/00
Complete identification of freeway corridor alternate routes - 10/00
Complete supplemental inventory of corridor routes - 3/01
Complete production of reference material - 6/01

PROJECT COSTS:

Design and Implementation - SFY01 - \$300,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C3(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Traveler Information Standards

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Consistent standards for effectively and efficiently providing traveler information to motorists via variable message signs, travel advisory radio, the media or other traveler information methods will decrease driver confusion, and improve safety. This project could include an inventory of current traveler information standards and a regional traveler information public opinion survey. The inventory would identify standards currently being used nationally for information dissemination and the survey would help identify preferred "language" for information dissemination to the traveling public within Wisconsin. The operation policy specifically for Variable Message Signs (VMSs) would be included as part of this project. A *VMS Operation Policy* would help eliminate vague messages, promote aggressive operation, provide consistent messages, consider diversion messages, and provide effective operator training.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$102,000

Annual Program Administration - \$17,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C3.(a) Traveler Information Standards

PROGRAM ADMINISTRATION:

Develop Policies and Standards

= 6 man months = $\frac{\$102,000}{\$102,000}$

ANNUAL PROGRAM ADMINISTRATION:

Annual Program Administration

= 1 man month = $\frac{\$ 17,000}{\$ 17,000}$

DRAFT

C4(a)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Establish MONITOR Archival Data Support

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

By establishing an archival data support system for MONITOR, many agencies and programs could benefit from the availability of reliable, current, transportation data. This project would examine the various types of data management systems available and determine the most suitable system in order to be compatible with the current and future MONITOR system and the regional ITS architecture. This project would include any hardware, software, and communication devices necessary for archival data support.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$504,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C4.(a) Establish MONITOR Archival Data Support

IMPLEMENTATION:

Design = 12 man months = \$204,000

Equipment	= \$300,000
	<hr/>
	\$504,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	= \$ 50,000
	<hr/>
	\$ 50,000

DRAFT

C4(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Enhanced MONITOR Operations

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Enhanced MONITOR Operations involves more effective and efficient use of existing MONITOR system elements, such as CCTV, VMS, HAR, Ramp Meters, etc. This may be achieved through Traffic Operations Center operator training and development of policies and standards that state when and how to use the different elements.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$68,000

Annual Program Administration - \$34,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C4.(b) Enhanced MONITOR Operations

PROGRAM ADMINISTRATION:

Develop Policies, Standards, and Procedures = 3 man months = \$ 51,000

Training = 1 man month = $\frac{\$ 17,000}{\$ 68,000}$

ANNUAL PROGRAM ADMINISTRATION:

Update and Develop Additional Policies/Standards/Procedures = 1 man month = $\frac{\$ 17,000}{\$ 34,000}$

Training = 1 man month = $\frac{\$ 17,000}{\$ 34,000}$

DRAFT

C4(c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

MONITOR 2010

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

This project includes *Expansion of the MONITOR* system to other areas in Southeastern Wisconsin such as Waukesha, Racine, and Kenosha Counties. Expansion may include communication infrastructure, equipment, and any hardware/software associated with the following MONITOR elements:

- System Detector Stations;
- Closed Circuit Television;
- Communication Infrastructure;
- Ramp Metering;
- Variable Message Signs;
- Changeable Overhead Lane Control Signs; and
- Traveler Advisory Radio.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation

MONITOR 2010 Preliminary Engineering SFY03 - \$3,000,000

2010 Stage 1 Design SFY 04 - \$2,000,000

2010 Stage 1 Construction SFY 05 - \$10,000,000

2010 Stage 2 Design SFY 06 - \$2,000,000

Annual Operating and Maintenance - \$2,000,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C4.(c) MONITOR 2010

DESIGN AND IMPLEMENTATION:

MONITOR 2010 Preliminary Engineering	= \$ 3,000,000
2010 Stage 1 Design	= \$ 2,000,000
2010 Stage 1 Construction	= \$10,000,000
2010 Stage 2 Design	= \$ 2,000,000
	<u>\$17,000,000</u>

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	= \$ 2,000,000
(~10% of Design and Implementation Costs)	<u>\$ 2,000,000</u>

DRAFT

C5(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Crash Investigation Sites Design and Construction

PROJECT TRACKING ID:

T0205/T0308

STATE FISCAL YEAR(S):

2002, 2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete design of freeway crash investigation sites based upon pending system wide study
- Complete PS&E for critical sites in Milwaukee, Waukesha, Ozaukee & Washington Counties
- Specific site deployments are likely to include:
 - Minor pavement modifications in Park & Ride lots and on frontage roads and surface streets
 - Installation of specialized telephone equipment to serve stranded motorists
 - Installation or modification of site lighting and monitoring facilities
 - Signing to guide motorists to sites, to designate sites, and to guide motorists in using sites

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

The design component of this project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Solicit, select, and contract for consultant support of design - 10/01

Review and select CIS that will not be incorporated into other improvement projects - 12/01

Complete PS&E - 6/02

Complete construction - 4/03

PROJECT COSTS:

Design - SFY02 - \$300,000

Implementation - SFY03 - \$2,000,000

Annual Operating and Maintenance - \$70,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C5(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Crash Investigation Sites Maintenance

PROJECT TRACKING ID:

T0115

STATE FISCAL YEAR(S):

2001, 2002, 2003, 2004, 2005, 2006

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete design of freeway crash investigation sites based upon pending system-wide study
- Complete PS&E for critical sites in Milwaukee, Waukesha, Ozaukee & Washington Counties
- Specific site deployments are likely to include
 - Minor pavement modifications in Park & Ride lots and on frontage roads and surface streets
 - Installation of specialized telephone equipment to serve stranded motorists
 - Installation or modification of site lighting and monitoring facilities
 - Signing to guide motorists to sites, to designate sites, and to guide motorists in using sites

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project.

CONSULTANT SERVICES:

This project will not involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Prepare contracts and agreements for CIS maintenance services - 10/00

Execute procurement and local agency agreements - 2/01

Begin 2000 maintenance services under contracts and agreements - 3/01

Begin 2001 maintenance services under contracts and agreements - 1/02

PROJECT COSTS:

SFY01 - \$100,000

SFY02 - \$200,000

SFY03 - \$200,000

SFY04 - \$200,000

SFY05 - \$200,000

SFY06 - \$200,000

EVALUATION PROVISIONS:

This project will be evaluated in the context of internal DOT business reviews

DRAFT

C6(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Enhanced Reference Signs Design and Construction

PROJECT TRACKING ID:

T0206, T0309

STATE FISCAL YEAR(S):

2002, 2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete design of freeway ELMS based upon system wide study
- Complete PS&E for critical sites in Racine, Kenosha, Waukesha, Ozaukee & Washington Counties
- Specific installations are likely to include milepost signs or light pole signs the clarify highway designation, direction of travel, sub-mile reference point

 earmarking CONSIDERATION:

There is no special funding or earmarking available for this project.

CONSULTANT SERVICES:

The design component of this project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Solicit, select, and contract for consultant support of design - 10/99

Review and select CIS that will not be incorporated into other improvement projects - 12/99

Complete PS&E - 6/02

Complete construction - 4/03

PROJECT COSTS:

Design - SFY02 - \$50,000

Implementation - SFY03 - \$450,000

Annual Operating and Maintenance - \$50,000

Annual Operations and Maintenance by periodic D2 Tier 1 projects to begin in SFY02

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C6(b)

Funding Type_____

Date Completed_____

Evaluated____ yes ____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Enhanced Reference Signs Maintenance

PROJECT TRACKING ID:

T0207

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Provide routine maintenance and necessary replacements of Enhanced Location Markings and Signings

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project.

CONSULTANT SERVICES:

The design component of this project will involve consultant services.

PROJECT SCHEDULE OR MILESTONES:

Develop maintenance contract - 10/01

Begin routine maintenance - 1/01

PROJECT COSTS:

SFY02 - \$200,000

SFY05 - \$400,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C7(a-e)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Signal Enhancements

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Signal System Hardware Upgrades* include those upgrades to arterial traffic signal systems necessary for implementation of state-of-the-art arterial traffic management practices including advanced signal timing, phasing, and coordination. Controller/cabinet change-outs, addition of loop detectors, and provision of hard-wire signal interconnection are examples of hardware upgrades typically necessary for implementation of incident-related traffic signal timings on alternate routes.
- b. *Surface Street Electronic Traffic Monitoring* includes installing system loop detectors and closed circuit television (CCTV) on arterials typically used as alternative routes during freeway incidents. These monitoring devices will also help emergency respondents determine the fastest routes to the incident site.
- c. *Traffic Signal / Ramp Meter Integration* helps address arterial congestion in the vicinity of a metered ramp through coordinated operations between traffic signals and ramp meters.
- d. *Enhanced Emergency Responder Traffic Signal Control* would allow a traffic signal to automatically change to "green" to permit emergency vehicles to proceed through an intersection. Preemption can also be used at ramp meters by allowing queued vehicles to be discharged.
- e. *Inter-Jurisdictional Traffic Signal Coordination* provides greater mobility to diverted and emergency response vehicles by allowing for "seamless" arterial signal progression. Inter-jurisdictional traffic signal coordination could be enhanced through the implementation of signal system hardware upgrades; as well as coordinated emergency vehicle and bus signal preemption.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

DRAFT

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$1,000,000
Annual Operating and Maintenance - \$100,000
- b. Design and Implementation - SFYxx - \$6,000,000
Annual Operating and Maintenance - \$600,000
- c. Design and Implementation – SFYxx - \$100,000
Annual Operating and Maintenance - \$10,000
- d. Design and Implementation – SFYxx - \$100,000
Annual Operating and Maintenance - \$10,000
- e. Design and Implementation – SFYxx - \$304,000
Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C7.(a-e) Signal Enhancements

DESIGN AND IMPLEMENTATION:

- a. Signal System Hardware Upgrades
Design and Implementation $\begin{array}{r} = \$1,000,000 \\ \hline \$1,000,000 \end{array}$

Assumes controller/cabinet change-outs and installation of supplemental loop detectors for 100 intersections. Locations to be determined.

- b. Surface Street Electronic Traffic Monitoring
Design and Implementation $\begin{array}{r} = \$6,000,000 \\ \hline \$6,000,000 \end{array}$

Assumes design/implementation for 25 arterial centerline miles of electronic traffic monitoring with 2 CCTV cameras, 2 system detector stations, existing communications per mile.

- c. Traffic Signal / Ramp Meter Integration
Design and Implementation $\begin{array}{r} = \$ 100,000 \\ \hline \$ 100,000 \end{array}$

Assumes design/construction/implementation of 10 traffic signals and ramp meters.

- d. Enhanced Emergency Responder Traffic Signal Control

Design and Implementation $\begin{array}{r} = \$ 100,000 \\ \hline \$ 100,000 \end{array}$

Assumes development/design/implementation of 20 advanced traffic signal control interfaces to be used by emergency responders.

- e. Inter-Jurisdictional Traffic Signal Coordination Study = 12 man months = \$ 204,000

Design and Implementation $\begin{array}{r} = \$ 100,000 \\ \hline \$ 304,000 \end{array}$

Assumes one-year study to identify needs for linking TIME strategies with the Integrated Corridor Operations Project (ICOP).

ANNUAL OPERATING AND MAINTENANCE:

- a. Signal System Hardware Upgrades
Annual Operating and Maintenance $\begin{array}{r} = \$100,000 \\ \hline \$100,000 \end{array}$
(10% of Design and Implementation Costs)

- b. Surface Street Electronic Traffic Monitoring
Annual Operating and Maintenance $\begin{array}{r} = \$600,000 \\ \hline \$600,000 \end{array}$
(10% of Design and Implementation Costs)

c.	Traffic Signal / Ramp Meter Integration	
	Annual Operating and Maintenance	<u>= \$ 10,000</u>
	(10% of Design and Implementation Costs)	\$ 10,000
d.	Enhanced Emergency Responder Traffic Signal Control	
	Annual Operating and Maintenance	<u>= \$ 10,000</u>
	(10% of Design and Implementation Costs)	\$ 10,000
e.	Inter-Jurisdictional Traffic Signal Coordination	
	Annual Operating and Maintenance	<u>= \$ 50,000</u>
		\$ 50,000

DRAFT

C8(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Use of Traffic Warnings

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Traffic Warning Devices can be used to alert motorists of excessive speed under certain roadway (e.g. tight curves, narrow lanes, etc.) and weather (e.g. wet, icy, etc.) conditions. Traffic warning devices may include, but are not limited to pavement markings (e.g. converging chevrons, transverse pavement markings, etc.), flashing lights, variable message signs, and static signs.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFYxx - \$746,000

Annual Operating and Maintenance – \$35,600

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C8.(a) Use of Traffic Warnings

IMPLEMENTATION:

Identify Design = 1 man month = \$ 17,000

Policy Development = 1 man month = \$ 17,000

Equipment

- Pavement Markings	= \$ 30,000
- Flashing Lights (4)	= \$240,000
- Full Matrix Freeway Variable Message Sign (2)	= \$440,000
- Static Signs (8)	= \$ 2,000
	<u>\$746,000</u>

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance	<u>= \$ 35,600</u>
(5% of Equipment Cost)	\$ 35,600

DRAFT

C8(b)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Speed Incident Prevention Project

PROJECT TRACKING ID:

T0111

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Plan and design multifaceted project to warn and slow speeding freeway motorists
- Incorporate vehicle classification and speed detection and warning subsystems
- Integrate driver education and traveler awareness strategies and components
- Deploy detectors and traveler warning devices
- Contract with law enforcement agencies for targeted enforcement

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Complete planning of project components (TIME Program Support) - 12/98

Execute contracts and agreements with law enforcement agencies - 2/00

Complete procurement, design and necessary construction contract documents - 3/00

Procure and construct necessary project hardware - 8/01

Begin testing and evaluation of Speed Incident Prevention Project - 1/02

PROJECT COSTS:

Design and Implementation - SFY01 - \$800,000

Annual Operating and Maintenance - \$80,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C9(a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Variable Message Signs

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Variable Message Signs (VMS) are electronic signs equipped with a lighted display capable of displaying a message. VMSs provide information on traffic conditions, causes of delay, traffic diversions, anticipated travel times, incidents, weather conditions, etc. Signs are typically placed at key entry and decision points to allow travelers an opportunity to choose alternate routes if necessary.

- a. *Delay Signing at Ramp Meters* could consist of VMSs at ramp meter locations providing travelers with real-time delay information. Knowing the current delay time at a ramp meter would allow the motorists the ability to make a more informed decision of whether to wait at the ramp meter or to continue on the surface streets. These dynamic delay signs could be installed at any of the current 93 ramp meters and/or the 28 new ramp meters anticipated by 2002.
- b. *Variable Message Signs Mounted on Pre-Existing Signs for Emergency Information* could provide motorists with current lane or exit ramp closure information in the event of an incident. These proposed VMSs would be less expensive than the current freeway overhead VMSs since they may be smaller in size and mounted on existing freeway signs.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$300,000
Annual Operating and Maintenance - \$30,000
- b. Design and Implementation – SFYxx - \$200,000
Annual Operating and Maintenance - \$20,000

DRAFT

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C9.(a-b) Variable Message Signs

DESIGN AND IMPLEMENTATION:

- | | |
|---------------------------------|--------------------|
| a. Delay Signing at Ramp Meters | |
| Design and Implementation | <u>= \$300,000</u> |
| | \$300,000 |

Assumes design/construction of five Variable Message Signs.

- | | |
|---|--------------------|
| b. Variable Message Signs Mounted on Pre-Existing Signs for Emergency Information | |
| Design and Implementation | <u>= \$200,000</u> |
| | \$200,000 |

Assumes design/construction of five Variable Message Signs.

ANNUAL OPERATING AND MAINTENANCE:

- | | |
|---|-------------------|
| a. Delay Signing at Ramp Meters | |
| Annual Operating and Maintenance | <u>= \$30,000</u> |
| (10% of Design and Implementation Costs) | \$30,000 |
| | |
| b. Variable Message Signs Mounted on Pre-Existing Signs for Emergency Information | |
| Annual Operating and Maintenance | <u>= \$20,000</u> |
| (10% of Design and Implementation Costs) | \$20,000 |

DRAFT

C10

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Regional Multi-Agency Traffic Management Center

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

A *Regional Multi-Agency Traffic Management Center* provides for improved incident management coordination by co-locating personnel from responsible agencies. Regional Multi-Agency Traffic Management Centers typically incorporate traffic management, roadway maintenance, law enforcement, media, transit, and/or emergency personnel. Project elements may include:

- Traffic Management Center
- Communication Equipment

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFYxx - \$2,000,000

Annual Operating and Maintenance - \$500,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C10. Regional Multi-Agency Traffic Management Center

DESIGN AND IMPLEMENTATION:

Design and Implementation

= \$2,000,000
\$2,000,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance

= \$ 500,000
\$ 500,000

DRAFT

C11(a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Probe Traffic Information

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Probe vehicles could be utilized to provide real-time traffic information. The probe vehicles would consist of transit, paratransit, maintenance, taxis or delivery fleet vehicles that frequently travel the freeway and arterial systems. The vehicles would communicate real-time travel information including travel speeds and delays automatically to the traffic operations center. This project would include selection, purchase and installation of vehicle tracking technology, along with determination and acquisition of the required technology for the traffic operations center to utilize the probe data.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$500,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C11. Probe Traffic Information

DESIGN AND IMPLEMENTATION:

Study = 12 man months = \$ 204,000

Equipment = \$ 296,000
\$ 500,000

ANNUAL OPERATING AND MAINTENANCE:

Update Study and Evaluation = 1 man month = \$ 17,000

Annual Operating and Maintenance = \$ 33,000
(~10% of Equipment Cost) \$ 50,000

DRAFT

C12

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

In-Vehicle Traveler Information

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

In-Vehicle Traveler Information systems may include radio signals that have the ability to override the radio/tape/cd player settings in order to broadcast current travel conditions or computer screens that can automatically display current travel conditions.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFYxx - \$284,000

Annual Operating and Maintenance - \$75,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C12. In-Vehicle Traveler Information

DESIGN AND IMPLEMENTATION:

Study and Policy Development = 2 man months = \$ 34,000

Equipment

Radio Signal = \$ 50,000

Broadcast Equipment = \$ 100,000

Radio Tower = \$ 100,000

\$ 284,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance = \$ 75,000

- Radio Signal \$ 75,000

- Equipment Upgrades / Repairs

DRAFT

C13(a-d)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

TIME Program Evaluation

PROJECT TRACKING ID:

T9902

STATE FISCAL YEAR(S):

2001, 2003, 2005

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Contract for consultant services to support continuing evaluation of the TIME Program
- Quantitatively and qualitatively evaluate specific TIME deployment projects and activities
- Evaluate the ongoing effectiveness of the administration of the overall TIME Program
- Recommend expansion, modification, or termination of specific TIME deployment activities
- Determine the cost-effectiveness of specific TIME projects

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project may continue existing relationships with the academic community

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 6/00

Consultant selection and scoping - 8/00

Execute consultant contract - 9/00

Issue notice to proceed - 10/00

PROJECT COSTS:

SFY01 - \$300,000

SFY03 - \$300,000

SFY05 - \$300,000

(Propose full encumbrance in SFY01)

EVALUATION PROVISIONS:

This project is an evaluation project. Therefore, it will not require a separate evaluation.

DRAFT

C14(a-c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Freeway Access Enhancements for Emergency Response Vehicles

PROJECT TRACKING ID:

T0304

STATE FISCAL YEAR(S):

2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Freeway Access Enhancements for Emergency Response Vehicles may include the design and construction of the following or similar projects:

- a. *Freeway Access Enhancements for Emergency Response Vehicles* include the provision of u-turns, median crossover turnarounds, or gated entrances at non-interchange locations to allow emergency respondents easier/quicker access to freeway incidents.
- b. *Traffic Signal and Ramp Meter Emergency Vehicle Preemption* is a technology that allows a traffic signal to automatically change to "green" to permit emergency vehicles to proceed through an intersection or entrance ramp. Preemption is typically provided by an optical or radio sensor at intersections or entrance ramps along pre-specified emergency routes. A preemption system allows emergency vehicles to respond to incidents in less time. For instance, preemption can be used at ramp meters by allowing queued vehicles to be discharged therefore minimizing emergency vehicle response time.
- c. *Freeway Design Enforcement Accommodations* include the provision of concrete pads on the freeway right of way for law enforcement patrols and additional space (e.g. wider shoulders, High Occupancy Vehicle (HOV) lanes) on freeway entrance ramps so that law enforcement can move around traffic to get onto the freeway.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFY03 - \$1,000,000

DRAFT

EVALUATION PROVISIONS:
(to be determined)

DRAFT

C15(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Ramp Closure Gates

PROJECT TRACKING ID:

T0208

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete construction contracts for freeway ramp gates
- Install gates to temporarily close freeway entrance ramps during freeway incidents
- Expand location of gates currently being installed and tested

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Complete review of current freeway ramp gate design (TIME Program Support) - 12/99

Complete procurement, design and necessary construction contract documents - 3/02

Begin deployment of new (additional) freeway ramp gates - 8/02

PROJECT COSTS:

Design and Implementation - SFY02 - \$500,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C15(b-c)

Funding Type_____
Date Completed_____
Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Detour Signing

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- b. When entrance ramps are closed due to a major incident or inclement weather appropriate *Detour Signs* need to be in place to alert motorists of the closure and inform them of alternate routes. Project costs may include development of alternate route plans and procedures for deployment of detour signs and the signs/sign assemblies.
- c. *"Trail Blazer" Route Guidance Signing* is used to guide diverted travelers along alternate routes and back to freeway. Signs are typically located along the route and at turning or decision making points. Signs may be permanent or portable, static or variable. Project costs may include development of alternate route plans and procedures for deployment of "trail blazer" signs and the signs/sign assemblies.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Design and Implementation - SFYxx - \$320,500
Annual Operating and Maintenance - \$42,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C15.(b-c) Detour Signing

DESIGN AND IMPLEMENTATION:

Alternate Route Plans

- Meeting Coordination and Participation	= 2 man months = \$	34,000
- Study	= 4 man months = \$	68,000

Detour Signs (100)	= \$	20,000
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Trailblazer Signs (8 intersections)

- Arrow Assembly (32)	= \$	42,000
- By-Pass Assembly (32)	= \$	42,000
- Controller (8)	= \$	12,000
- Relay Assembly (8)	= \$	2,500
- Other Communication Equipment	= \$	100,000
		<u>\$ 320,500</u>

ANNUAL OPERATING AND MAINTENANCE:

Review / Update Alternate Route Plans	= 1 man month = \$	17,000
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Annual Operating and Maintenance	= \$	25,000
(~10% of Equipment Cost)	\$	42,000

DRAFT

C16(a-c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Weather Information Gathering and Dissemination Systems

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Weather Information Gathering System and Dissemination Equipment* includes the ability to gather weather information from reliable sources (e.g. mobile pavement temperature sensors, National Weather Service, etc.) and make this information available to the appropriate agencies (e.g. WisDOT, maintenance/DPW, public safety/law enforcement, etc.) through communication links.
- b. *Mobile Pavement Temperature Sensors* could be installed on law enforcement and maintenance vehicles to detect pavement temperatures and potential icy and wet surface conditions
- c. *Automated Weather Information* could be disseminated via Highway Advisory Telephone (HAT), Highway Advisory Radio (HAR), or website to warn motorists of severe weather conditions. Weather stations at high incident locations could also be effective in alerting motorists of poor travel conditions. This project could also investigate the potential benefits of utilizing existing variable message signs to display weather "watch" or "warning" information.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$200,000
Annual Operating and Maintenance - \$15,000
- b. Design and Implementation – SFYxx - \$200,000
Annual Operating and Maintenance - \$15,000
- c. Design and Implementation – SFYxx - \$100,000
Annual Operating and Maintenance - \$10,000

DRAFT

EVALUATION PROVISIONS:
(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C16.(a-c) Weather Information Gathering and Dissemination Systems

DESIGN AND IMPLEMENTATION:

- | | | |
|----|--|----------------------------|
| a. | Weather Information Gathering System and Dissemination Equipment | |
| | Design / Study | = 4 man months = \$ 68,000 |
| | Equipment | = \$ 132,000 |
| | | <u>\$ 200,000</u> |
| b. | Mobile Pavement Temperature Sensors | |
| | Design / Study | = 4 man months = \$ 68,000 |
| | Equipment | = \$ 132,000 |
| | | <u>\$ 200,000</u> |
| c. | Automated Weather Information | |
| | Design / Study | = 2 man months = \$ 34,000 |
| | Equipment | = \$ 66,000 |
| | | <u>\$ 100,000</u> |

ANNUAL OPERATING AND MAINTENANCE:

- | | | |
|----|--|--------------------|
| a. | Weather Information Gathering System and Dissemination Equipment | |
| | Annual Operating and Maintenance | <u>= \$ 15,000</u> |
| | (~10% of Equipment Cost) | \$ 15,000 |
| b. | Mobile Pavement Temperature Sensors | |
| | Annual Operating and Maintenance | <u>= \$ 15,000</u> |
| | (~10% of Equipment Cost) | \$ 15,000 |
| c. | Automated Weather Information | |
| | Annual Operating and Maintenance | <u>= \$ 10,000</u> |
| | (~15% of Equipment Cost) | \$ 10,000 |

DRAFT

C17(a-c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Locating Systems

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Mayday Systems/GPS Locating Systems* include in-vehicle systems that automatically communicate emergency "help" signals via Global Positioning Satellites (GPS) to appropriate authorities. Since the systems can be activated automatically the motorists does not have to use a cellular phone or other technology to contact 911 in case of an emergency. With the GPS Locating Systems, the location of the vehicle is also automatically disseminated. This type of in-vehicle system would be especially beneficial in rural areas where there are few other motorists on the road to report incidents. The systems would include the in-vehicle equipment, the communication infrastructure to the appropriate agencies, and the technology required for the agency to interpret the information received from the vehicle.
- b. *Cellular Telephone Locating Systems* utilize the latest cellular technology to quickly and accurately pin point the location of the originating call. This technology will quickly identify freeway incident location even if the caller is unable to verbally communicate or if the caller does not know their location. If a large number of cellular phone calls are received from an area the traffic operations center could automatically be notified to observe the area.
- c. *AVL or Automatic Vehicle Location* is a technology typically used for tracking the location of public safety/law enforcement and maintenance units in real time. This technology will reduce response times by allowing dispatchers to deploy the unit closest to the incident scene. The systems would include the in-vehicle equipment, the communication infrastructure to the appropriate agencies, and the technology required for the agency to interpret the information received from the vehicle.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

DRAFT

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$750,000
Annual Operating and Maintenance - \$50,000
- b. Cost Assumed by Cellular Telephone Providers
- c. Design and Implementation – SFYxx - \$251,000
Annual Operating and Maintenance - \$20,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C17.(a-c) Locating Systems

DESIGN AND IMPLEMENTATION:

- a. Mayday Systems / GPS Locating Systems
System Development Study = 12 man months = \$ 204,000
- Equipment = \$ 546,000
- \$ 750,000

Assumes equipment for pilot deployment in 20 vehicles.

- b. Cellular Telephone Locating Systems
Cost assumed by cellular telephone providers

- c. Automatic Vehicle Location
Design = 3 man months = \$ 51,000
- Equipment
- Initial Pilot Test = \$200,000
- \$251,000

ANNUAL OPERATING AND MAINTENANCE:

- a. Mayday Systems / GPS Locating Systems
Annual Operating and Maintenance = \$ 50,000
(~10% of Equipment Cost) \$ 50,000
- b. Cellular Telephone Locating Systems
Cost assumed by cellular telephone providers
- c. Automatic Vehicle Location
Annual Operating and Maintenance = \$ 20,000
(10% of Equipment Cost) \$ 20,000

DRAFT

C18(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - Test Segment Design

PROJECT TRACKING ID:

T9910

STATE FISCAL YEAR(S):

2001

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Incorporate preliminary engineering into project and corridor O&M agreements with local agencies
- Complete PS&E's for I-94/I-43 test segment, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-94/I-43 test segment

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 8/00

Complete Integrated Corridor PS&E - 10/01

PROJECT COSTS:

Design - SFY01 - \$500,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - Test Segment Construction

PROJECT TRACKING ID:

T0116

STATE FISCAL YEAR(S):

2001

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Complete PS&E's for I-94/I-43 test segment, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-94/I-43 test segment

earmarking consideration:

This project may be funded through a federal earmark

consultant services:

This project will involve design and system integration through consultant services

project schedule or milestones:

Consultant solicitation, scoping, and contract execution - 8/00

Complete Integrated Corridor PS&E - 10/01

Begin construction - 6/02

Complete construction - 10/02

project costs:

Implementation - SFY01 - \$2,500,000

Annual Operating and Maintenance - \$120,000

evaluation provisions:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(c)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - I-894/USH-45 Design

PROJECT TRACKING ID:

T0209

STATE FISCAL YEAR(S):

2002

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Incorporate preliminary engineering into project and corridor O&M agreements with local agencies
- Complete PS&E's for I-894, USH 45 Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-894/USH 45

earmarking consideration:

This project may be funded through a federal earmark

consultant services:

This project will involve design and system integration through consultant services

project schedule or milestones:

Consultant solicitation, scoping, and contract execution - 8/00
Complete Integrated Corridor PS&E - 10/01

project costs:

Design - SFY02 - \$1,000,000

evaluation provisions:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(d)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - I-894/USH-45 Construction

PROJECT TRACKING ID:

T0310

STATE FISCAL YEAR(S):

2003

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Complete PS&E's for I-894, USH 45 Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-894/USH 45

earmarking consideration:

This project may be funded through a federal earmark

consultant services:

This project will involve design and system integration through consultant services

project schedule or milestones:

Consultant solicitation, scoping, and contract execution - 8/00

Complete Integrated Corridor PS&E - 10/01

Begin construction - 6/02

Complete construction - 10/02

project costs:

Implementation - SFY02 - \$5,000,000

Annual Operating and Maintenance - \$230,000

evaluation provisions:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(e)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - I-894/I-43 Design

PROJECT TRACKING ID:

T0210

STATE FISCAL YEAR(S):

2001

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Milwaukee County, City of Milwaukee, other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Incorporate preliminary engineering into project and corridor O&M agreements with local agencies
- Complete PS&E's for I-43/I-894 Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-43/I-894

earmarking consideration:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 8/00

Complete Integrated Corridor PS&E - 10/01

PROJECT COSTS:

Design - SFY02 - \$1,000,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(f)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor - I-894/I-43 Construction

PROJECT TRACKING ID:

T0311

STATE FISCAL YEAR(S):

2003

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, City of Milwaukee, other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-894/I-43 Corridor preliminary engineering study & report
- Complete PS&E's for I-43 Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along I-43/I-894

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 8/00

Complete Integrated Corridor PS&E - 10/01

Begin construction - 6/02

Complete construction - 10/02

PROJECT COSTS:

Implementation - SFY03 - \$5,000,000

Annual Operating and Maintenance - \$230,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(g)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor – 43/Marquette Interchange Design

PROJECT TRACKING ID:

T0401

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Incorporate preliminary engineering into project and corridor O&M agreements with local agencies
- Complete PS&E's for 43/Marquette Interchange Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along 43/Marquette Interchange

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution -
Complete Integrated Corridor PS&E -

PROJECT COSTS:

Design – SFY04 - \$2,000,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(h)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor – 43/Marquette Interchange Construction

PROJECT TRACKING ID:

T0501

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Milwaukee County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Complete PS&E's for 43/Marquette Interchange Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along 43/Marquette Interchange

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution –
Complete Integrated Corridor PS&E -
Begin construction -
Complete construction -

PROJECT COSTS:

Implementation – SFY05 - \$10,000,000
Annual Operating and Maintenance - \$460,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(i)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor – 94 Racine/Kenosha Design

PROJECT TRACKING ID:

T0502

STATE FISCAL YEAR(S):

(to be determined)

COMMITTED PROJECT LEADER (OR CO-LEADERS):

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

COMMITTED PROJECT PARTNERS:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Racine County, Kenosha County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Incorporate preliminary engineering into project and corridor O&M agreements with local agencies
- Complete PS&E's for 94 Racine/Kenosha Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along 94 Racine/Kenosha

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution -
Complete Integrated Corridor PS&E -

PROJECT COSTS:

Design – SFY05 - \$400,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C18(j)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integrated Corridor – 94 Racine/Kenosha Construction

PROJECT TRACKING ID:

T0601

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

TIME Corridor Traffic Management Committee, DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint
Racine County, Kenosha County, and other local agencies

PROJECT DESCRIPTION:

- Update preliminary ICOP strategies through I-43 Corridor preliminary engineering study & report
- Complete PS&E's for 94 Racine/Kenosha Integrated Corridor, likely to include:
 - Surface street traffic data and video surveillance subsystems
 - Modern traffic-responsive or adaptive traffic signal systems
 - Static & dynamic traffic signing and other traveler information devices and subsystems
 - Traffic signal and traveler information equipment to enhance transit service
- Complete system integration and testing of operational Integrated Corridor along 94 Racine/Kenosha

earmarking consideration:

This project may be funded through a federal earmark

consultant services:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution -
Complete Integrated Corridor PS&E -
Begin construction -
Complete construction -

PROJECT COSTS:

Implementation – SFY06 - \$2,000,000
Annual Operating and Maintenance - \$100,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

C19

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation/
Reconstruction Projects

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation/ Reconstruction Projects would promote the placement of a compatible communication network throughout the major corridors in the region. By having a policy in place, the installation of communication conduit would become a part of the design and construction of many rehabilitation/reconstruction projects that otherwise would not address the installation of ITS technology. Incorporating the conduit installation into the design and construction phases of other projects is more cost effective than having a separate conduit installation project. While this project would address changes in policy only, funding would be necessary for outreach/in-reach materials and documentation of policy changes.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$40,000
Annual Program Administration - \$2,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

C19. Policies for Installing Integrated Corridors Communication Conduit in Rehabilitation /
Reconstruction Projects

DESIGN AND IMPLEMENTATION:

Develop Policies / Standards = 2 man months = \$ 34,000

Inreach / Outreach Materials = \$ 6,000
\$ 40,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance = \$ 2,500
- Review / Update Policies and Standards = \$ 2,500
- Inreach / Outreach Materials

DRAFT

S1(a)

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Special Event Transportation Standard Operating and Emergency Management Procedures (SO/EMP) Manual

PROJECT TRACKING ID:

T9909

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

The purpose of the *Special Event Transportation Standard Operating and Emergency Management Procedures Manual* is to provide guidelines by which the Wisconsin Department of Transportation, special event coordinators, and emergency response agencies can better facilitate safe and efficient arrival and dismissal of special events patrons in Southeast Wisconsin. This manual will identify current practices and develop recommended guidelines for the planning and operation of special events traffic management. This manual will also prescribe an emergency management traffic operation plan to provide consistency and coordination for emergency service responders in the event of a special event evacuation (S1b). This project will also recommend possibilities for the use of non-freeway roadways and Intelligent Transportation Systems (ITS) technologies to better distribute traffic during major special events. A project advisory group will be established with representatives of the agencies affected by special events traffic management.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$100,000

Annual Program Administration - \$34,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S1.(a) Special Event Transportation Standard Operating and Emergency Management
Procedures Manual

PROGRAM ADMINISTRATION:

Conduct Study and Develop Standard Operating Procedures	= \$ 100,000
	<u> </u>
	= \$ 100,000

ANNUAL PROGRAM ADMINISTRATION:

Update Study and Standard Operating Procedures	= 2 man months = \$ 34,000
	<u> </u>
	\$ 34,000

DRAFT

S1(b)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Emergency Evacuation Plans

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Emergency Evacuation Plans would implement emergency evacuation plans previously developed. This project would include the distribution of the evacuation plans to affected agencies/facilities, installation of any additional signing required, construction/reconstruction modifications required to implement the evacuation plans, and training of agency/facility personnel of implementation of the plans.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$268,000

Annual Operations and Maintenance - \$32,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S1.(b) Emergency Evacuation Plans

IMPLEMENTATION:

Study = 3 man months = \$ 51,000

Training = 1 man month = \$ 17,000

Equipment = \$ 200,000
- Evacuation Signage = \$ 268,000
- Renovations

ANNUAL OPERATING AND MAINTENANCE:

Training = 1 man month = \$ 17,000

Annual Operating and Maintenance = \$ 15,000
\$ 32,000

DRAFT

S1(c)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Pre-Planning for Special Events/Tourism/Construction Activities

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Pre-Planning for Special Events/Tourism/Construction Activities ensures that traffic/transportation issues have been addressed in the early stages of event planning. Transportation professionals would need to work with the Bureau of Tourism, Event Operators, and Chamber of Commerce to develop a coordinated program to improve traffic management for planned events. The Special Event database and Standard Operating Procedures Manual could be utilized during this process.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S1.(c) Pre-Planning for Special Events / Tourism / Construction Activities

ANNUAL PROGRAM ADMINISTRATION:

Study / Planning Activities = 2 man months = \$ 34,000

Correspondence / Meeting Coordination = \$ 16,000

- Workshops \$ 50,000
- Tabletop Exercises
- Demonstrations

DRAFT

S2

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Special Events Parking Management System

PROJECT TRACKING ID:

T0114, T0307

STATE FISCAL YEAR(S):

2001, 2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete design of parking & traffic management components of previous special events studies
- Incorporate technology & O&M strategies from the Integrated Corridor Operations Project (ICOP)
- Complete PS&E in cooperation with affected local agencies and special event operators
- Deployment is likely to include
 - Parking facility surveillance and monitoring subsystems
 - Relevant corridor traffic management and signal system updates and expansion
 - Computer links to existing and evolving traveler information services (MONITOR, Internet)
 - Dynamic roadside traveler information devices for parking information
 - Coordinated special events Traveler Advisory Radio (TAR) components

EARMARKING CONSIDERATION:

This project will be partially funded through the GCM TEA21 Earmark

CONSULTANT SERVICES:

The design component of this project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Solicit, select, and contract for consultant support of design & procurement - 2/01
Review, select and specify relevant components from draft ICOP Strategic Plan material - 4/01
Complete project agreements with state and local agencies and parking facility operators - 4/01
Specify and procure equipment for partial pilot deployment (installation by agencies) - 6/01
Complete PS&E for full corridor parking management system - 8/01
Complete construction and integration of field, communications, and computer equipment - 4/03

PROJECT COSTS:

Design - SFY01 - \$400,000

Implementation - SFY03 - \$2,000,000

Annual Operating and Maintenance - \$30,000 (beginning after construction)

DRAFT

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

S3(a-b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Integration of Road Weather Information

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. A *Weather Information Study* may examine the potential usage of existing and future ITS infrastructure to disseminate emergency weather information. This study would examine the availability, validity, and legal issues related to weather information displayed on VMSs, HAR, TAR, and transportation internet sites.
- b. *Freeway Emergency Guidelines* indicate to law enforcement, maintenance, and transportation professionals and motorists the proper courses of action in various emergency weather situations as well as major incidents. These guidelines could outline usage of ITS infrastructure to disseminate emergency weather information, establish detour routes for major corridors, and outline usage of a tow moratorium and entrance ramp closure gates.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Program Administration - SFYxx - \$102,000
Annual Program Administration - \$17,000
- b. Program Administration – SFYxx - \$51,000
Annual Program Administration - \$17,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S3.(a-b) Integration of Road Weather Information

PROGRAM ADMINISTRATION:

a. Weather Information Study	
Study	= 6 man months = \$ 102,000
	\$ 102,000

b. Freeway Emergency Guidelines	
Study	= 6 man months = \$ 102,000
	\$ 102,000

ANNUAL PROGRAM ADMINISTRATION:

a. Weather Information Study	
Update Study	= 1 man month = \$ 17,000
	\$ 17,000

b. Freeway Emergency Guidelines	
Update Guidelines	= 1 man month = \$ 17,000
	\$ 17,000

DRAFT

S4(a)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Regional Mobile Command Posts

PROJECT TRACKING ID:

T0113

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Review mobile command posts and related equipment for procurement and testing
- Procure two (2) mobile command posts to be operated by local emergency service agencies
- Coordinate testing and evaluation of equipment by emergency services and law enforcement

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Review, select and specify mobile command posts and equipment (TIME Program Support) - 12/98

Complete project plans and agreements with state and local law enforcement - 3/00

Complete procurement - 8/01

Begin testing and evaluation of Crash Measurement Equipment Project - 1/02

PROJECT COSTS:

Design and Implementation - SFY01 - \$1,000,000

Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

S4(b)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Portable Advance Traffic Management System (ATMS) for Special Events

PROJECT TRACKING ID:

T0305

STATE FISCAL YEAR(S):

2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Review portable ATMS and related equipment for procurement and testing
- Procure portable ATMS to be operated by WISDOT (statewide) & local agencies for special events
- ATMS equipment is likely to include:
 - Mobile special event traffic management center
 - Portable traffic detection and video surveillance subsystems
 - Portable/Temporary CCTV for Traffic Control provide traffic management information via video for a relatively short period of time. The CCTV could provide real-time travel condition video to construction supervisors or event operators not on the site, to the traffic operations center, to the media, or to motorists via the Internet. This project would provide for two portable/temporary CCTVs, the communication infrastructure, and any equipment additions or modifications needed for the video to be viewable by the designated agencies.
 - Portable traveler information devices and changeable message signs (CMS)
- Coordinate testing and evaluation of equipment by traffic managers and special event operators

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Review, select and specify special events ATMS equipment (TIME Program Support) - 8/99
Complete project agreements with state and local agencies and special event operators - 9/03
Complete procurement - 12/03
Begin testing and evaluation of - 1/04

PROJECT COSTS:

Design and Implementation - SFY03 - \$900,000
Annual Operating and Maintenance - \$60,000

DRAFT

EVALUATION PROVISIONS:

This project will be evaluated as part of the Incident Management Evaluation Program

DRAFT

S5(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Special Events Database

PROJECT TRACKING ID:

T0204, T0306

STATE FISCAL YEAR(S):

2002,2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete detailed design of special events ATIS components of CDSI Strategic Plan
- Incorporate necessary software design provisions to MONITOR software
- Procure computer and communications hardware and software for database operations
- Set up and initially maintain special events database linked to real-time MONITOR ATIS functions
- Test and evaluate database and pre-trip ATIS functionality to refine further development

 earmarking consideration:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

The design component of this project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Complete CDSI Strategic Plan - 3/99

Solicit, select, and contract for consultant support of CAD design & procurement - 8/02

Review, select and specify ATIS components of the CDSI Strategic Plan - 10/02

Complete project agreements with state and local agencies and special event operators - 1/03

Complete system design, specifications, and revisions to existing software - 6/03

Complete procurement and integration of communications and computer equipment - 10/03

Begin testing and evaluation - 11/03

PROJECT COSTS:

Design - SFY02 - \$400,000

Implementation - SFY03 - \$1,600,000

Annual Operating and Maintenance - \$40,000 (beginning after construction)

EVALUATION PROVISIONS:

This project will include testing and evaluation by a contracted third party within the project team

DRAFT

S5(b-f)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Special Event Traveler Information

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- b. *Kiosks* located in shopping malls, hotels, airports, and special event venues provide the public with traveler information in the form of live video from CCTV or descriptions of traffic conditions on various freeway and arterial routes. Information on traffic conditions may include the following: travel times, alternate routes, and construction. Kiosks at airports may also provide "yellow pages" information including hotel, restaurant, and rental car information.
- c. *Transit Information at Park and Ride Lots* could be provided via variable message signs (VMSs). The VMSs message may include information pertaining to the approximate arrival time of the next bus for each route. This project would initially provide for two VMSs at Park and Ride Lots (possibly State Fair and Watertown Plank locations) and the communication equipment between the transit vehicles and the VMSs.
- d. An *Internet Repository* would consist of a web page that allows users to access regional traveler and special event information. Information provided could include: an interactive schedule of special events; directions from major origins and maps; anticipated construction delays; transit information; real-time traveler information; and links to various other relevant internet sites.
- e. *Media Partnerships* could further enhance traveler information dissemination. Local television and radio stations could interface directly with MONITOR travel time, occupancy, speed, variable message signs, and incident information.
- f. *"Out of County" Driver Information* could be provided to motorists living outside of the region. This information could be available via the Internet. By obtaining travel condition information before entering the region, motorists could select alternative routes to avoid congestion caused by traffic incidents or construction.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

DRAFT

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- b. Design and Implementation - SFYxx - \$368,000
Annual Operating and Maintenance - \$30,000
- c. Design and Implementation - SFYxx - \$434,000
Annual Operating and Maintenance - \$40,000
- d. Design and Implementation – SFYxx - \$105,000
Annual Operating and Maintenance - \$35,000
- e. Design and Implementation – SFYxx - \$17,000
Annual Operating and Maintenance - \$1,000
- f. Design and Implementation – SFYxx - \$34,000
Annual Operating and Maintenance - \$8,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S5.(b-f) Special Event Traveler Information

DESIGN AND IMPLEMENTATION:

b. Kiosks		
Design	= 4 man months = \$	68,000
Kiosk (3)	= \$	<u>300,000</u>
	\$	368,000
c. Transit Information at Park and Ride Lots		
Design	= 2 man months = \$	34,000
Equipment		
Variable Message Signs (2)	= \$	300,000
Communication Infrastructure	= \$	<u>100,000</u>
	\$	434,000
d. Internet Repository		
Internet Repository Development	= 6 man months = \$	102,000
Internet Repository Costs	= \$	<u>3,000</u>
	\$	105,000
e. Media Partnerships		
Develop/Document Guidelines	= 1 man month = \$	<u>17,000</u>
	\$	17,000
f. "Out of County" Driver Information		
Develop Outreach Methods/Materials	= 2 man months = \$	<u>34,000</u>
	\$	34,000

ANNUAL OPERATING AND MAINTENANCE:

b. Kiosks		
Annual Operating and Maintenance (10% of Equipment Cost)	= \$	<u>30,000</u>
	\$	30,000
c. Transit Information at Park and Ride Lots		
Annual Operating and Maintenance (10% of Equipment Cost)	= \$	<u>40,000</u>
	\$	40,000
d. Internet Repository		
Internet Repository Updates	= 2 man months = \$	34,000
Annual Internet Repository Costs	= \$	<u>1,000</u>
	\$	35,000
e. Media Partnerships		
Update Guidelines	= \$	<u>1,000</u>
	\$	1,000

- f. "Out of County" Driver Information
Develop Outreach Methods/Materials

$$= \frac{1}{2} \text{ man month} = \frac{\$ 8,500}{\$ 8,500}$$

DRAFT

S6(a-c)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Transit Initiatives

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Transit Initiatives may include, but are not limited to the following elements:

- a. *Kiosks* are monitors that provide traveler information in the form of live video from CCTV or descriptions of traffic conditions on various freeway and arterial routes. When deployed in conjunction with transit initiatives they can also display route and timetable information. Kiosks are typically located at park and ride lots, shopping malls, airports, and special event venues.
- b. A *SMART Bus* system may include the following elements:
 - Automatic Vehicle Location – Automatic Vehicle Location is the determination of vehicle location by use of electronic location technology and reporting of that location to a dispatcher.
 - Automatic Vehicle Annunciators
 - Real Time Bus Information Server
 - Automated Passenger Counting – Automatically counts boarding and alighting passengers through the use of infrared beams or treadle mats.
 - Interface with ITS for Roadway Traffic
 - Major Engine Components Diagnostics
 - Audio and Video Security Systems
 - Automatic Fare Collection – Automatic fare payment systems are designed to make payment more convenient for transit users and simplify collection for the transit provider. This is possible through the deployment of technologies that enable transit trips to be paid by non-paper media in advance or by credit. Some technologies include magnetic stripe (swipe card) or smart cards.
- c. *Transit Traffic Signal Prioritization* is a technology that allows a traffic signal to automatically change to “green” to permit buses to proceed through an intersection. Transit prioritization is typically provided by an optical or radio sensor at intersections. This provision will allow individual bus routes to remain on schedule and provide a reliable service to travelers.

EARMARKING CONSIDERATION:

(to be determined)

DRAFT

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

- a. Design and Implementation - SFYxx - \$368,000
Annual Operating and Maintenance - \$30,000
- b. Design and Implementation - SFYxx - \$1,068,000
Annual Operating and Maintenance - \$100,000
- c. Design and Implementation – SFYxx - \$551,000
Annual Operating and Maintenance - \$50,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

S6.(a-c) Transit Initiatives

DESIGN AND IMPLEMENTATION:

a. Kiosks		
Design	= 4 man months = \$	68,000
Kiosk (3)		<u>= \$ 300,000</u>
		\$ 368,000
b. SMART Bus		
Study	= 4 man months = \$	68,000
Equipment		<u>= \$1,000,000</u>
- Communication Infrastructure		\$1,068,000
- Hardware/Software		
- Vehicle Technology		
- Other		
c. Transit Traffic Signal Prioritization		
Study and Design	= 3 man months = \$	51,000
Equipment		<u>= \$ 500,000</u>
		\$ 551,000

Assumes implementation at 25 intersections and in approximately 50 vehicles.

ANNUAL OPERATING AND MAINTENANCE:

a. Kiosks		
Annual Operating and Maintenance		<u>= \$ 30,000</u>
(10% of Equipment Cost)		\$ 30,000
b. SMART Bus		
Annual Operating and Maintenance		<u>= \$ 100,000</u>
(10% of Equipment Cost)		\$ 100,000
c. Transit Traffic Signal Prioritization		
Annual Operating and Maintenance		<u>= \$ 50,000</u>
(10% of Equipment Cost)		\$ 50,000

DRAFT

O1(a-d)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Market Research Study

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Motorist/Market Research Study* would conduct a “user” study to determine the best approach for TIME program outreach efforts. The study would also assess the current awareness and opinion of the TIME program.
- b. The *ITS Branding Initiative* is an initiative undertaken to give Wisconsin's ITS program outreach components a unified appearance/theme. With branding, the outreach pieces would convey an integrated ITS effort to the public and politicians.
- c. *Public Opinion/Response Survey* is a method of adjusting and updating the scope of the TIME Blueprint based on feedback from public.
- d. A *Traveler Information Public Opinion Survey* would be conducted to determine which VMS, TAR, media, etc. messages are most clearly understood by travelers within SE Wisconsin. The survey could also assess which modes of information dissemination are most attractive to the public.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$150,000

Annual Program Administration - \$15,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

O1.(a-d) Market Research Study

PROGRAM ADMINISTRATION:

Program Development

= \$ 150,000
\$ 150,000

ANNUAL PROGRAM ADMINISTRATION:

Annual Program Administration
(10% of Program Administration Cost)

= \$ 15,000
\$ 15,000

DRAFT

O2(a-b)

Funding Type_____

Date Completed_____

Evaluated____ yes ____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Statewide ITS Coordination

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- a. *Statewide ITS Users Group* could be initiated to enhance ITS coordination throughout the state. The Users Group could promote consistent usage of ITS procedures and technology. ITS professionals could benefit from the "lessons learned" by others.
- b. *Annual Workshop of all Statewide ITS Projects* could address current and planned ITS initiatives throughout the state of Wisconsin.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Annual Program Administration - \$45,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE BACK-UP / COMPUTATIONS

PROJECT TITLE:

O2.(a-b) Statewide ITS Coordination

ANNUAL PROGRAM ADMINISTRATION:

Develop/Enhance Statewide Project Coordination Efforts	= 2 man months = \$34,000
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Workshop Costs	= \$11,000
	<u>\$45,000</u>

DRAFT

O3

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Build ITS into the State Project Process (Design and Funding)

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

By *Building ITS into the State Project Process (Design and Funding)*, ITS projects will be addressed more appropriately and not forced through an unsuitable process. The technology component of ITS projects requires reconsideration of the current state design process. Because ITS projects are often multi-jurisdictional additional funding processes warrant consideration. This project would include outreach/in-reach materials and documentation of policy changes.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$17,000

Annual Program Administration - \$1,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

O3. Build ITS into the State Project Process (Design and Funding)

PROGRAM ADMINISTRATION:

Develop Outreach/Inreach Materials and Document Policies	= 1 man month = \$	17,000
		<hr/>
	\$	17,000

ANNUAL PROGRAM ADMINISTRATION:

Annual Program Administration	\$	1,500
		<hr/>
	\$	1,500

DRAFT

O4(a-f)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Emergency Responder Education / Training Programs

PROJECT TRACKING ID:

T0105

STATE FISCAL YEAR(S):

2000

SPONSOR:

TIME Enhanced Freeway Patrol Task Force (EFPTF)

PROJECT PARTICIPANTS OR ORIGIN:

TIME Incident Management Outreach Committee, WI State Patrol, Emergency Government

PROJECT DESCRIPTION:

- Contract for consultant services to support TIME incident response training and awareness activities
- Develop and produce training materials and conduct training specifically for traffic incident responders and managers in transportation, law enforcement, fire departments, and emergency medical service providers
- Some of the responder training elements to include:
 - Education/Outreach on Incident Clearance Legislation
Educate Responders (i.e. EMS, towers, freeway patrols, etc.) on the use of Incident Clearance Legislation by providing information in newsletters and speaking at association meetings.
 - Education/Outreach on Crash Investigation Sites
Educate Responders (i.e. EMS, towers, freeway patrols, etc.) on the use of Crash Investigation Sites by providing information in newsletters and speaking at association meetings.
 - Emergency Respondent Safety and Incident Management Procedures Implementation Program and Training
Establishment of an on-going program to develop and enhance incident management safety procedures, procedures/protocols for "worst case" incident scenarios, examples to build on, and an assessment of products used by other agencies nationwide.
 - Provide Specialized Automobile Emergency Response (Extrication) Training
A dedicated countywide unit that specializes in auto incidents and extrication.
 - Incorporate Traffic Incident Management into Required (Annual) Law Enforcement Training
Law enforcement agencies require yearly certification training. Traffic incident management could be incorporated into the curriculum at MATC, UWM, etc.
 - Traffic Incident Management Demonstrations/Training Exercises
Traffic Incident Management Demonstrations/Training Exercises are on-going joint agency exercises that focus on the implementation between agencies.

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project.

DRAFT

CONSULTANT SERVICES:

This project will consist of consultant services.

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 9/99

Consultant selection and scoping - 1/00

Execute consultant contract - 2/00

Issue notice to proceed - 2/00

PROJECT COSTS:

Program Administration - SFY00 - \$500,000

EVALUATION PROVISIONS:

This project will incorporate annual or bi-annual training evaluation and market assessment.

DRAFT

O5(a-i)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Public Education / Outreach Programs

PROJECT TRACKING ID:

T0104

STATE FISCAL YEAR(S):

2001, 2002, 2003, 2004, 2005, 2006

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Contract for consultant services to support TIME training and education activities
- Train traffic incident responders and managers in transportation and law enforcement
- Educate traffic incident professionals, and vehicle operators about traffic incidents
- Deploy the TIME Communications Plan
- Coordinate TIME education & awareness activities with MONITOR & GCM Communications Plans
- Public education/outreach programs include but are not limited to the various elements of ITS and traffic incident management listed below. Methods of education/outreach: inclusion in driver education courses and manuals, insurance and AAA newsletters, association meetings, billboards, media, distribution of information to major employers, present information on state maps, and consistent procedures.
 - Traffic Incident Management Awareness
 - Incident Clearance Legislation
 - Crash Investigation Sites
 - Enhanced Reference Signs
 - Effects of "Rubbernecking"
 - Secondary Incidents
 - Reporting Incidents
 - Dangers of Cell Phone Usage While Driving
 - Awareness of Internet Based Document Repository

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 2/01

Consultant selection and scoping - 5/01

Execute consultant contract - 7/01

Issue notice to proceed - 7/01

Last Revision 10/00

DRAFT

PROJECT COSTS:

Program Administration - SFY01 - \$200,000
Program Administration - SFY02 - \$200,000
Program Administration - SFY03 - \$200,000
Program Administration - SFY04 - \$200,000
Program Administration - SFY05 - \$200,000
Program Administration - SFY06 - \$200,000

EVALUATION PROVISIONS:

This project will incorporate annual or bi-annual training evaluation and market assessment

DRAFT

O6(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 20xx-20xx DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Commercial Driver Education / Outreach Programs

PROJECT TRACKING ID:**STATE FISCAL YEAR(S):**

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Commercial Driver Education / Outreach Programs may include education and training of basic ITS elements and procedures for consistent reporting of freeway incidents. The main purpose of the training and procedures is intended to save response time by eliminating confusion related to the inaccurate crash reporting.

- a. *Include Enhanced Reference Sign Education in Commercial Driver Licensing* to promote usage of reference signs by commercial drivers to communicate specific locations on the freeways to dispatchers.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$30,000

Annual Program Administration - \$3,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

O6.(a) Commercial Driver Education / Outreach Programs

PROGRAM ADMINISTRATION:

Develop Procedures and Education/Training	= \$	30,000
	\$	30,000

ANNUAL PROGRAM ADMINISTRATION:

Annual Program Administration	= \$	3,000
(10% of Program Administration Cost)	\$	3,000

DRAFT

O7(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Tourist Education / Outreach Programs

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Tourist Education/Outreach Programs include the development of a coordination program to improve traffic management for planned special events. Project elements may include quarterly task force meetings, the development of outreach materials such as brochures, and the placement of kiosks at rest areas, park and ride lots, shopping malls, airports, and special event venues. One method to accomplish this is to *Work with the Greater Milwaukee Visitors and Convention Bureau, Bureau of Tourism, Event Operators, and Chambers of Commerce to Manage/Improve Tourism Traffic Impacts.*

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Program Administration - SFYxx - \$383,000

Annual Program Administration - \$40,500

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

O7.(a) Tourist Education / Outreach Programs

PROGRAM ADMINISTRATION:

Needs Assessment Study	= 2 man months = \$	34,000
Meetings	= 1 man month = \$	17,000
Outreach Materials	= \$	15,000
Kiosks (3)	= \$	300,000
Database Development	= 1 man month = \$	<u>17,000</u>
		\$ 383,000

ANNUAL PROGRAM ADMINISTRATION:

Meetings	= 1 man month = \$	17,000
Update Database	= ½ man month = \$	8,500
Outreach Materials	= \$	<u>15,000</u>
		\$ 40,500

DRAFT

O8

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 20xx-20xx
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Enhanced Media Information / Dissemination

PROJECT TRACKING ID:

STATE FISCAL YEAR(S):

(to be determined)

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

Enhanced Media Information/Dissemination would include improvements to how travel information is currently communicated to motorists. Travel information can be transmitted through various media forms including AM/FM radio stations, Traveler Advisory Telephone, Cable TV, and the Internet. This project would include examination of information dissemination technologies, acquisition of selected technology upgrades, and implementation of additional procedures/protocols to facilitate information dissemination via the media.

EARMARKING CONSIDERATION:

(to be determined)

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

(to be determined)

PROJECT COSTS:

Implementation - SFYxx - \$200,000

Annual Operating and Maintenance - \$15,000

EVALUATION PROVISIONS:

(to be determined)

ORDER OF MAGNITUDE COST ESTIMATE
BACK-UP / COMPUTATIONS

PROJECT TITLE:

O8. Enhanced Media Information / Dissemination

IMPLEMENTATION:

Needs and Opportunities Study = 3 man months = \$ 51,000

Equipment = \$ 149,000
\$ 200,000

ANNUAL OPERATING AND MAINTENANCE:

Annual Operating and Maintenance = \$ 15,000
(10% of Equipment Cost) \$ 15,000

DRAFT

O8(a)

Funding Type_____

Date Completed_____

Evaluated_____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Traffic Media Support

PROJECT TRACKING ID:

T0102

STATE FISCAL YEAR (S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

District Two Freeway Operations Policy Group
Traffic Incident Management Enhancement (TIME) Program
Milwaukee Public Schools

PROJECT DESCRIPTION:

- Contract with Milwaukee Public Schools for a traffic technology and media student mentor
- Mentor and School-to-Work students provide traffic media liaison support to MONITOR TOC
- Mentor develops public-private partnerships with media to recoup costs
- Mentor develops new traffic media services of MONITOR to support traveler info services

EARMARKING CONSIDERATION:

This project will be funded through the MONITOR TEA21 Earmark

CONSULTANT SERVICES:

This project will not involve consultant services

PROJECT SCHEDULE OR MILESTONES:

MPS Board approval of draft contract - 12/98
Execute MPS contract - 2/00
Select mentor - 5/00
Begin student involvement - 9/00
Complete funded portion of project - 12/02

PROJECT COSTS:

Program Administration - SFY01 - \$700,000

EVALUATION PROVISIONS:

This project will be evaluated through review and technical support of MONITOR control room

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Stage 6A Construction (1000-95-99)

PROJECT TRACKING ID:

M0101

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions

PROJECT DESCRIPTION:

- Complete construction of I-43 CCTV as described in the DSR
- Complete construction of "gaps" in system detection on I-94, I-894, and spurs
- Begin accommodation of MONITOR surveillance of Milwaukee-Madison, and Milwaukee-Green Bay freeways
- Complete modification and upgrades of outdate CCTV cameras and system equipment

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Begin Construction – 9/00

End Construction – 9/01

PROJECT COSTS:

SFY01 - \$3,375,000

Annual Operating and Maintenance - \$90,000

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Communications Infrastructure Construction

PROJECT TRACKING ID:

M0102

STATE FISCAL YEAR(S):

2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 12/00 (pending) Versions

PROJECT DESCRIPTION:

- Expand and adapt MONITOR fiber optic communications network to link public safety and emergency service communications centers
- Upgrade resulting TESCNET fiber optic infrastructure to full network capabilities
- Incorporate network management features to minimize communications network maintenance costs
- Redesign and update fixed and aerial traffic video surveillance cameras and controllers

EARMARKING CONSIDERATION:

This project may be funded through a federal earmark

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services and could accommodate subsystem design-build contracting.

PROJECT SCHEDULE OR MILESTONES:

Begin Initial Design – 10/00

Contract for Deployment - 5/01

Complete Construction and System Integration – 6/02

PROJECT COSTS:

SFY01 - \$5,000,000

Annual Operating and Maintenance - \$120,000

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

2000 Stage 6B Design and Construction

PROJECT TRACKING ID:

M0103 and M0201

STATE FISCAL YEAR(S):

2001, 2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions

PROJECT DESCRIPTION:

- Complete PS&E for Stage 6B of MONITOR consistent with updated DSR
- Complete construction of MONITOR Stage 6B likely to include
 - Freeway traffic data monitoring and video surveillance subsystems
 - Ramp meters and traffic gates
 - Freeway variable message signs
- Extend MONITOR coverage to encompass STH794, I-94 in Western Waukesha County
- Increase extent of freeway surveillance in Racine, Kenosha, Washington, and Ozaukee Counties
- Accommodate MONITOR surveillance of Milwaukee-Madison, and Milwaukee-Green Bay freeways
- Complete system integration and testing of MONITOR Stage 6B

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will involve design and system integration through consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation, scoping, and contract execution - 11/99

Complete Stage 6B PS&E - 8/01

Complete Stage 6B construction and system integration - 10/02

PROJECT COSTS:

Design - SFY01 - \$1,000,000

Implementation - SFY02 - \$7,000,000

Annual Operating and Maintenance - \$40,000

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

MONITOR 2010 Preliminary Engineering

PROJECT TRACKING ID:

M0301

STATE FISCAL YEAR(S):

2003

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR Design Study Report (DSR) - 4/96, 3/99 (pending) Versions

PROJECT DESCRIPTION:

- Complete a comprehensive review and update of initial MONITOR DSR (i.e. MONITOR 2000 DSR)
- Complete technological and operational evaluation of existing MONITOR equipment and subsystems
- Facilitate review of other available freeway traffic management equipment and strategies
- Develop and apply criteria for geographic extent and location of specific devices and subsystems
- Define geographic limits of MONITOR 2010 within Wisconsin and the GCM Corridor
- Complete system architecture consistent with the ITS National Architecture and available standards
- Document MONITOR 2010 preliminary engineering in DSR

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will involve consultant services

PROJECT SCHEDULE OR MILESTONES:

Issue a Request for Information (RFI) on second-generation FTMS deployment - 4/03

Consultant solicitation - 6/03

Consultant selection and contract execution - 9/03

Complete technological and operational review of existing system (MONITOR 2000) - 4/04

Complete MONITOR 2010 DSR - 3/05

PROJECT COSTS:

SFY03 - \$3,000,000

EVALUATION PROVISIONS:

This project incorporates technological and operational evaluation components for an existing system.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Computer and Control System Upgrade – Phase 1 and Phase 2

PROJECT TRACKING ID:

M0010, M0202

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Communications and Data Systems Infrastructure (CDSI) Strategic Plan (Pending)
GCM Program Plan and Gateway Design Documents

PROJECT DESCRIPTION:

- Complete design and development, integration, and testing of second-generation MONITOR software
- Provide for two-phase implementation of MONITOR Software Upgrade -
 - Phase 1 - Software Upgrade Design (Functional Specifications)
 - Phase 2 - Software Upgrade Development (Software Coding and Integration)
- Support the MONITOR Software Upgrade to include
 - Reconfiguration of MONITOR database and communications server components
 - Modernization of MONITOR surveillance video management
 - Adaptation of real-time geographic information systems technology
 - Seamless incorporation of Integrated Corridor surveillance and traffic control
 - Data exchange with public safety and emergency service computer aided dispatch systems
 - Parallel development of MONITOR and CDSI regional traveler information "Hub" subsystems
 - Operations and traveler information exchange with Milwaukee County transit and paratransit services

EARMARKING CONSIDERATION:

Phase 1 of this project is partially funded through the MONITOR TEA21 Federal Earmark

CONSULTANT SERVICES:

This project will involve software design and development through consultant and other contract services

PROJECT SCHEDULE OR MILESTONES:

Software design (Phase 1) consultant solicitation, scoping, and contract execution - 5/00
Software development (Phase 2) contractor solicitation, scoping, and contract execution - 11/00
Complete acceptance testing of complete Phases 1 and 2 of MONITOR Software Upgrade - 12/02

DRAFT

PROJECT COSTS:

SFY00 - \$750,000

SFY02 - \$5,000,000

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

System Software Update

PROJECT TRACKING ID:

M0104

STATE FISCAL YEAR(S):

2001,2003,2005

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Communications and Data Systems Infrastructure (CDSI) Strategic Plan (Pending)
GCM Program Plan and Gateway Design Documents

PROJECT DESCRIPTION:

- Complete routine maintenance and ongoing functional evaluation of MONITOR software
- Provide diagnostics and trouble-shooting to enable 7-day, 24-hour software operation
- Ensure operation of MONITOR software through upgrades of operating systems
- Continuously review compatibility of MONITOR software with constituent "off the shelf" software
- Update MONITOR databases, maps, configuration, and communication linkages
- Enable operator and software support feedback into MONITOR field and software design processes

EARMARKING CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Complete review of existing MONITOR maintenance contracts and warranties - 2/99
SFY99 software maintenance consultant solicitation, scoping, and contract execution - 5/00
SFY01 software maintenance consultant solicitation, scoping, and contract execution - 10/00

PROJECT COSTS:

SFY01 - \$500,000
SFY03 - \$500,000
SFY05 - \$700,000

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM STATE FISCAL YEARS 2001-2003 DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Freeway Corridor Advanced Traffic Management Systems (ATMS) Maintenance and Integration

PROJECT TRACKING ID:

M0105

STATE FISCAL YEAR(S):

1999, 2000, 2001

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Integrated Corridor Operations Project (ICOP) Strategic Plan (Pending)
GCM Program Plan and Gateway Design Documents

PROJECT DESCRIPTION:

- Complete routine maintenance and ongoing operational evaluation of MONITOR field equipment
- Complete routine maintenance of arterial traffic data and video surveillance subsystems
- Maintain and repair arterial dynamic signs and variable message signs (VMS)
- Calibrate and fine-tune traffic detectors, device controllers
- Provide diagnostics and trouble-shooting to enable 7-day, 24-hour Integrated Corridor operation
- Enable device operator and field support feedback into MONITOR field and software design processes

 earmarking consideration:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services and other contractor services

PROJECT SCHEDULE OR MILESTONES:

Complete review of existing MONITOR and related maintenance contracts and warranties - 2/99
1999 freeway corridor ATMS maintenance consultant solicitation, and contract execution - 5/99
2000 freeway corridor ATMS maintenance consultant solicitation, and contract execution - 10/99
2001 freeway corridor ATMS maintenance consultant solicitation, and contract execution - 10/00

PROJECT COSTS:

SFY99 - \$500,000
SFY00 - \$1,000,000
SFY01 - \$1,000,000
SFY02 - \$1,300,000
SFY03 - \$1,300,000
SFY04 - \$1,500,000
SFY05 - \$1,500,000
SFY06 - \$1,500,000

DRAFT

EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Systems Engineering and Configuration Management

PROJECT TRACKING ID:

M0203

STATE FISCAL YEAR(S):

2002

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 12/00 (pending) Versions
TIME Blueprint

Southeastern Wisconsin Regional ITS Architecture - 5/00 (pending)

PROJECT DESCRIPTION:

- Provide systems engineering services to support the ongoing operation and maintenance of the MONITOR Freeway Traffic Management System and related subsystems
- Monitor, revise, and update the SE Wisconsin Regional ITS Architecture
- Coordinate individual ITS project architectures
- Support WISDOT and USDOT review of regional, corridor, and project architectures from SE Wisconsin

earmarking consideration:

This project may be funded through a federal earmark.

CONSULTANT SERVICES:

This project will involve system and program support services through consultant services.

PROJECT SCHEDULE OR MILESTONES:

Begin Consultant Contract - 07/01

Complete Consultant Contract – 12/03

PROJECT COSTS:

SFY02 - \$400,000

SFY04 - \$400,000

SFY06 - \$400,000

EVALUATION PROVISIONS:

This project provides basic system support functions to the MONITOR Freeway Traffic Management System and related subsystems. These efforts do not require an evaluation, but will be implicitly evaluated through the ongoing evaluation of the MONITOR system.

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

System Evaluation and Technology Development

PROJECT TRACKING ID:

M9908

STATE FISCAL YEAR(S):

1999, 2001, 2003, 2005

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Contract for consultant services to support continuing evaluation of the MONITOR Program
- Quantitatively and qualitatively evaluate specific MONITOR subsystems and devices
- Evaluate the ongoing effectiveness of the administration of the overall MONITOR Program
- Recommend expansion, modification, or abandonment of specific MONITOR functions and services
- Identify needs for technological developments in support of the MONITOR System
- Facilitate partnerships with Wisconsin industry to develop new MONITOR equipment and components
- Determine the cost-effectiveness of the overall MONITOR System, as well as specific subsystems
- Determine compliance of MONITOR subsystems with ITS National Architecture and standards

EARMARKING CONSIDERATION:

This project is partially funded through the MONITOR TEA21 Earmark (\$400,000 in SFY99/FFY98)

CONSULTANT SERVICES:

This project will consist of consultant services

Alternately, this project may expand existing relationships with the academic community

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 12/99

Consultant selection and scoping - 2/99

Execute consultant contract - 3/99

Issue notice to proceed - 3/99

DRAFT

PROJECT COSTS:

SFY99 - \$400,000 (MONITOR TEA21 Earmark)

SFY01 - \$600,000

SFY03 - \$600,000

SFY05 - \$600,000

Propose full encumbrance in SFY99

EVALUATION PROVISIONS:

This project incorporates an evaluation component

DRAFT

Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Education, Training, and Awareness

PROJECT TRACKING ID:

M0204

STATE FISCAL YEAR(S):

2002, 2004, 2006

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Support for MONITOR staff training and education activities
- Complete training of local public safety agencies to utilize MONITOR system and field devices
- Train traffic managers and drivers to use MONITOR capabilities
- Promote freeway traffic safety through driver awareness campaigns
- Deploy the MONITOR Communications Plan (pending)
- Coordinate MONITOR education and awareness activities with TIME and GCM Communications Plans

earmarking consideration:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 8/99

Consultant selection and scoping - 10/99

Execute consultant contract - 12/99

Issue notice to proceed - 12/99

PROJECT COSTS:

SFY02 - \$400,000

SFY04 - \$400,000

SFY06 - \$400,000

Propose full encumbrance in SFY00

EVALUATION PROVISIONS:

This project will incorporate annual or bi-annual training evaluation and market assessment.

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Funding Type _____
Date Completed _____
Evaluated _____ yes _____ no

ITS PROGRAM - PROJECT SUBMITTAL FORM
STATE FISCAL YEARS 2001-2003
DISTRICT TWO - TRAFFIC OPERATIONS CENTER

PROJECT TITLE:

Control Room Technical Support and Training

PROJECT TRACKING ID:

M9909

STATE FISCAL YEAR(S):

1999, 2001, 2003, 2005

SPONSOR:

DTD, District Two, Freeway Operations Unit

PROJECT PARTICIPANTS OR ORIGIN:

MONITOR ("2000") Design Study Report (DSR) - 4/96, 3/99 (pending) Versions
Traffic Incident Management Enhancement (TIME) Program Blueprint

PROJECT DESCRIPTION:

- Complete operational review of MONITOR control room practices and policies
- Evaluate staff qualifications and capabilities and update control room staffing plan
- Develop complete and concise MONITOR operations policies and guidelines
- Produce MONITOR control room manual, shift check-lists, and graphics for display
- Provide supplemental engineering and operator staffing support for control room functions
- Conduct weekly audits of MONITOR control room performance and MONITOR device utilization
- Complete ongoing review and refinement of ramp metering subsystems
- Implement, calibrate, and monitor segmental ramp metering algorithms

earmarking CONSIDERATION:

There is no special funding or earmarking available for this project

CONSULTANT SERVICES:

This project will consist of consultant services

PROJECT SCHEDULE OR MILESTONES:

Consultant solicitation - 12/99

Consultant selection and scoping - 1/99

Execute consultant contract - 3/99

Issue notice to proceed - 3/99

PROJECT COSTS:

SFY99 - \$400,000

SFY01 - \$800,000

SFY03 - \$800,000

SFY05 - \$800,000

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EVALUATION PROVISIONS:

This project will be evaluated through the MONITOR System Evaluation and Technology Development Program.